

NASA Technical Memorandum 80051

(NASA-TM-80051) FUSELAGE SURFACE PRESSURE
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MODEL WITH A 3.15-METER DIAMETER SINGLE
ROTOR (NASA) 170 p HC A08/MF A01 CSCL 01A

N79-26015

Unclas
G3/02 26034

FUSELAGE SURFACE PRESSURE MEASUREMENTS OF A HELICOPTER WIND-TUNNEL MODEL WITH A 3.15-METER DIAMETER SINGLE ROTOR

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March 1979



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SUMMARY

A wind-tunnel investigation has been conducted to measure the time-averaged fuselage surface pressures of a helicopter model with a 3.15-meter diameter, four-bladed articulated rotor. Measurements were made at hover and advance ratios of 0.05, 0.15, and 0.20 for a range of thrusts. Data are presented with no analysis.

INTRODUCTION

The downwash induced by a rotor on a helicopter fuselage and its empennage generally produces an effect on the overall vehicle performance. These effects are generally most evident in hover and low-speed flight as fuselage downloads and yawing moments. The flow around the fuselage has a secondary effect of inducing nonuniform downwash through the rotor disk.

The purpose of this investigation was to expand the data base required to validate analytic models of the flow field around a rotorcraft fuselage. Most comparisons to this date have used the results of reference 1 which presents surface pressures of three helicopter models with 1-meter, 2-bladed diameter rotors. This paper presents data for a general fuselage configuration with a 3.15-meter, 4-bladed rotor system.

No analysis of the data is presented as the purpose of this paper is to provide experimental data for future analytical analyses.

SYMBOLS

Units used for physical quantities defined in this paper are given in the International System of Units (SI). The positive senses of parameters are shown in figures 1(a) and 1(b).

| | |
|----------|---|
| a_0 | coning angle, deg |
| a_{1s} | first-harmonic rotor longitudinal flapping angle, deg |
| A_1 | lateral cyclic control, deg |
| b | number of blades |
| b_{1s} | first-harmonic rotor lateral flapping angle, deg |
| B_1 | longitudinal cyclic control, deg |

| | |
|------------|--|
| c | blade chord, m |
| C_p | pressure coefficient, $(p-p_\infty)/q_\infty$ forward flight, $(p-p_\infty)/1.0$ hover |
| C_Q | rotor torque coefficient, $Q/\rho_\infty (\Omega R)^2 \pi R^3$ |
| C_T | rotor thrust coefficient, $T_R/\rho_\infty (\Omega R)^2 \pi R^2$ |
| D | drag, N |
| h/D | height of rotor above test section floor/ $2R$ |
| H | height of body/ R |
| H_R | rotor drag force, N |
| h_h | height of hub above gimbal pivot point, cm |
| L | lift, N |
| N | ellipse power |
| P | pressure, Pa |
| P_∞ | free-stream static pressure, Pa |
| q_∞ | free-stream dynamic pressure, Pa |
| Q | rotor torque, N-m |
| r | polar coordinate/ R |
| R | rotor radius, m |
| T_R | rotor thrust, N |
| V_∞ | free-stream velocity, m/sec or knots as noted |
| X, Y, Z | cartesian coordinates, cm |
| X_S, Z_S | distance from moment reference center of gimbal pivot point, cm |
| Y_R | rotor side force, N |
| α | angle of attack, deg |
| β | angle of sideslip, deg |
| γ | rotor shaft tilt angle, deg |
| μ | advance ratio, $V_\infty/\Omega R$ |

| | |
|-----------------|---------------------------------|
| ρ_{∞} | free-stream air density, kg/m |
| σ | rotor solidity, $bc/\pi R$ |
| ϕ | polar coordinate, deg |
| ψ | blade azimuth position |
| Ω | rotor rotational speed, rad/sec |

Notation:

| | |
|-----|------------------------|
| HP | hub plane |
| NFP | no feathering plane |
| TPP | tip path plane |
| RPM | revolutions per minute |

Subscripts:

| | |
|---|----------|
| F | fuselage |
|---|----------|

MODEL AND APPARATUS

The general rotor model system (GRMS) was used in the Langley V/STOL tunnel for this investigation. A sketch of the model is presented in figure 1, and a photograph of the model in the test section is presented as figure 2. Details of the model may be found in reference 2.

The rotor hub used in the investigation was fully articulated. The flapping and lagging hinges were coincident at the 4.8 percent radius. The pitch-flap coupling angle was set at -2° . Position potentiometers were mounted on the flapping and lagging hinges of the reference blade to provide a measure of the flapping and lagging motions. Strain gages were mounted on the pitch link of the reference blade to measure the control loads. The rotor was driven by twin 67 kW (90 h.p.) electric motors driving a common transmission. The rotor, transmission, and motor assembly were mounted on a six-component strain-gage balance. The balance was supported by a gimbal system of springs and dampers to insure that the rotor would be free from ground resonance.

The rotor blades had -8° twist and an untapered planform. One blade was equipped with externally mounted strain gages. Spanwise wiring to the gage was run internally. However, at the four radial positions of the gages, the instrumentation wire was run externally in a chordwise direction. Further details of the rotor blades may be found in table 1.

The fuselage shape is mathematically derived from super-ellipse equations. For a given fuselage station (X), the cross section (Y and Z coordinates) is

defined by the height (H), width (W), camber line (ZO), and elliptical power (N).

A super ellipse is defined by the elliptical equation

$$\left(\frac{x + x_0}{A}\right)^n + \left(\frac{y + y_0}{B}\right)^m = C \quad (1)$$

where n and m are not necessarily equal to two or equal to each other, and A , B , C , x_0 , and y_0 are arbitrary constants. By solving for y as a function of x (i.e., $y = F(x)$), equation (1) becomes

$$y = F(x) = B \left(C - \left(\frac{x + x_0}{A}\right)^n \right)^{\frac{1}{m}} - y_0 \quad (2)$$

Making the substitutions $m = C_8$; $y_0 = -C_6$; $B = C_7$; $C = C_1$; and $X = x$ and by expanding the term

$$- \left(\frac{x + x_0}{A}\right)^n \quad (3)$$

to

$$+ C_2 \left(\frac{X + C_3}{C_4}\right)^{C_5} \quad (4)$$

equation (2) becomes

$$F(X) = C_6 + C_7 \left[C_1 + C_2 \left(\frac{X + C_3}{C_4}\right)^{C_5} \right]^{\frac{1}{C_8}} \quad (5)$$

Equation (5) is then used to calculate H , W , ZO , and N as a function of X by selection of an appropriate set of constants C_1 through C_8 (Table II).

The cross section at the fuselage station X can then be defined by a polar coordinate (r, ϕ) form of equation (1) with

$$y + y_0 = r \cos \phi \quad (6)$$

$$x + x_0 = r \sin \phi \quad (7)$$

and the constant relations $C = 1$ and $n = m = N$. Thus equation (2), solving for r , becomes

$$r = \left[\frac{(A \cdot B)^N}{(A \sin)^N + (B \cos)^N} \right]^{\frac{1}{N}} \quad (8)$$

Therefore, the body cartesian coordinates may be obtained for $\phi = 0$ to 2π by using equation (8) and substituting $A = H/2$, $B = W/2$, and N obtained from function (3) to determine r . The cartesian coordinates Y and Z are then calculated using $Y = r \sin\phi$ and $Z = r \cos\phi + Z_0$ where Z_0 was obtained using function (3). As shown in figure 3, the body is divided into four regions and the pylon into two regions with a set of constants for each region.

One hundred seventy-six orifices were located on the body. The cartesian coordinates of these orifices are listed in table III.

Body pitch angle was measured by instrumentation inside the model while sideslip angles were calculated based upon the joint positions of the V/STOL alpha-beta sting assembly. Surface pressures were measured by six pressure transducers as the orifices were mechanically scanned.

TEST CONDITIONS AND CORRECTIONS

This investigation was conducted in the Langley V/STOL tunnel, which is a closed-return, atmospheric tunnel. The tunnel test section, which measures 4.42 m by 6.63 m, was operated in two modes: (1) with the walls and ceiling removed for an advance ratio μ of 0.05 and in hover; and (2) with a closed test section for advance ratios of 0.15 and 0.20. All tests were conducted with the moment reference center of the model on the center line of the test section. This position corresponds to $h/D = 0.92$.

Angle-of-attack and sideslip sweeps were made using the alpha-beta sting. No sting corrections were made. Angle of attack and tunnel dynamic pressure were corrected using methods described in reference 3.

Force data were averaged for 100 samples over 10 seconds. Pressure data were averaged for 50 samples over 5 seconds with 0.8 second allowed for settling time between orifice scan steps.

Test conditions for various run and point numbers are listed in table IV.

PRESENTATION OF DATA

Data are presented as figure 4. Pressure coefficients, C_p , are plotted for 14 fuselage stations at each test condition listed in table IV. Orifice coordinates can be found in table III. Listings of C_p for each test condition is provided in the appendix.

REFERENCES

1. Wilson, John C.; and Mineck, Raymond E.: Wind-Tunnel Investigation of Helicopter-Rotor Wake Effects on Three Helicopter Fuselage Models. NASA TM X-3185, 1975
2. Mineck, Raymond E.; and Freeman, Carl E.: Aerodynamic Characteristics of a 1/6-Scale Powered Model of the Rotor Systems Research Aircraft. NASA TM X-3489, 1977
3. Heyson, Harry H.: Use of Superposition in Digital Computers to Obtain Wind-Tunnel Interference Factors for Arbitrary Configurations, With Particular Reference to V/STOL Models. NASA TR R-302, 1969

TABLE I.- MODEL GEOMETRY

Fuselage:

| | |
|-------------------------|---------------|
| Moment Reference Center | $X = 0.690R$ |
| | $Y = 0.0 \ R$ |
| | $Z = 0.0 \ R$ |
| Length | $2.0 \ R$ |

Rotor:

| | |
|------------------|--------------------------|
| Hub Coordinates | $X = 0.690R$ |
| | $Y = 0.0 \ R$ |
| | $Z = 0.124R$ |
| Number of Blades | 4 |
| γ | 2 deg |
| X_s | $0.009R$ |
| Z_s | $0.034R$ |
| h_h | $0.090R$ |
| Root Cutout | $0.20R$ |
| Chord | $.108m$ |
| Radius | $1.574m$ |
| Twist | -8.0° |
| Flapping Inertia | $0.653 \text{ Kg} - m^2$ |
| Solidity | 0.0871 |
| Airfoil Section | NASA RC-10-(B) M002 |

TABLE II

(a) Fuselage Parameters

| Function | X/R | C ₁ | C ₂ | C ₃ | C ₄ | C ₅ | C ₆ | C ₇ | C ₈ |
|----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| H | 0 → 0.4 | 1.0 | -1.0 | -.4 | 0.4 | 1.8 | 0 | 0.25 | 1.8 |
| W | | 1.0 | -1.0 | -.4 | .4 | 2.0 | 0 | .25 | 2.0 |
| ZO | | 1.0 | -1.0 | -.4 | .4 | 1.8 | -.08 | .08 | 1.8 |
| N | | 2.0 | 3.0 | 0 | .4 | 1.0 | 0 | 1.0 | 1.0 |
| H | 0.4 → 0.8 | 0.25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| W | | .25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ZO | | 8.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | | 5.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 0.8 → 1.9 | 1.0 | -1.0 | -.8 | 1.1 | 1.5 | 0.05 | 0.2 | 0.6 |
| W | | 1.0 | -1.0 | -.8 | 1.1 | 1.5 | 0.05 | 0.2 | 0.6 |
| ZO | | 1.0 | -1.0 | -.8 | 1.1 | 1.5 | .04 | -.04 | 0.6 |
| N | | 5.0 | -3.0 | -.8 | 1.1 | 1.0 | 0 | 0 | 0 |
| H | 1.9 → 2.0 | 1.0 | -1.0 | -1.9 | 0.1 | 2.0 | 0 | 0.05 | 2.0 |
| W | | 1.0 | -1.0 | -1.9 | 0.1 | 2.0 | 0 | .05 | 2.0 |
| Zφ | | 0.04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(b) Pylon Parameters

| | | | | | | | | | |
|----|-------------|-------|------|-----|-------|-----|------|-------|-----|
| H | 0.4 → 0.8 | 1.0 | -1.0 | -.8 | 0.4 | 3.0 | 0 | 0.2 | 3.0 |
| W | | 1.0 | -1.0 | -.8 | 0.4 | 3.0 | 0 | 0.172 | 3.0 |
| ZO | | 0.122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | | 5.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 0.8 → 1.018 | 1.0 | -1.0 | -.8 | 0.218 | 2.0 | 0 | 0.2 | 2.0 |
| W | | 1.0 | -1.0 | -.8 | .218 | 2.0 | 0 | 0.172 | 2.0 |
| ZO | | 1.0 | -1.0 | -.8 | 1.1 | 1.5 | .065 | 0.06 | 0.6 |
| N | | 0.122 | 0 | 0 | 0 | 0 | 0 | 0 | C |

TABLE III. - ORIFICE COORDINATES

| STRIP | ORIFICE | X/R | Y/R | Z/R |
|-------|---------|-------|-------|--------|
| 1 | 1 | .0517 | .0070 | .0064 |
| 1 | 2 | .0517 | .0353 | -.0005 |
| 1 | 3 | .0516 | .0558 | -.0231 |
| 1 | 4 | .0516 | .0595 | -.0541 |
| 1 | 5 | .0517 | .0475 | -.0826 |
| 1 | 6 | .0518 | .0212 | -.0969 |
| 2 | 7 | .0941 | .0097 | .0387 |
| 2 | 8 | .0941 | .0294 | .0366 |
| 2 | 9 | .0942 | .0491 | .0300 |
| 2 | 10 | .0941 | .0656 | .0167 |
| 2 | 11 | .0940 | .0755 | -.0021 |
| 2 | 12 | .0940 | .0791 | -.0231 |
| 2 | 13 | .0940 | .0791 | -.0442 |
| 3 | 14 | .1451 | .0120 | .0667 |
| 3 | 15 | .1452 | .0367 | .0648 |
| 3 | 16 | .1452 | .0617 | .0571 |
| 3 | 17 | .1451 | .0817 | .0402 |
| 3 | 18 | .1451 | .0923 | .0159 |
| 3 | 19 | .1450 | .0954 | -.0100 |
| 3 | 20 | .1450 | .0954 | -.0355 |
| 4 | 21 | .2007 | .0136 | .0892 |
| 4 | 22 | .2007 | .0721 | .0792 |
| 4 | 23 | .2007 | .1054 | .0303 |
| 4 | 24 | .2006 | .1077 | -.0284 |
| 4 | 25 | .2007 | .0948 | -.0870 |
| 4 | 26 | .2007 | .0426 | -.1154 |
| 5 | 27 | .2562 | .0152 | .1056 |
| 5 | 28 | .2563 | .0470 | .1042 |
| 5 | 29 | .2563 | .0799 | .0957 |
| 5 | 30 | .2563 | .1045 | .0731 |
| 5 | 31 | .2562 | .1145 | .0406 |
| 5 | 32 | .2561 | .1162 | .0080 |
| 5 | 33 | .2561 | .1162 | -.0231 |
| 6 | 34 | .3074 | .0160 | .1162 |
| 6 | 35 | .3074 | .0499 | .1150 |
| 6 | 36 | .3074 | .0852 | .1066 |
| 6 | 37 | .3074 | .1106 | .0822 |
| 6 | 38 | .3074 | .1200 | .0471 |
| 6 | 39 | .3073 | .1213 | .0128 |
| 6 | 40 | .3073 | .1213 | -.0197 |
| 7 | 41 | .3498 | .0165 | .1220 |
| 7 | 42 | .3499 | .0882 | .1126 |
| 7 | 43 | .3498 | .1229 | .0506 |
| 7 | 44 | .3498 | .1239 | -.0178 |
| 7 | 45 | .3499 | .1141 | -.0896 |
| 7 | 46 | .3498 | .0515 | -.1234 |

TABLE III. - CONTINUED

| STRIP | ORIFICE | X/R | Y/R | Z/R |
|-------|---------|--------|--------|--------|
| 8 | 47 | .4669 | .0901 | .1162 |
| 8 | 48 | .4669 | .1162 | .0901 |
| 8 | 49 | .4669 | .1243 | .0524 |
| 8 | 50 | .4669 | .1250 | .0168 |
| 8 | 51 | .4669 | .1250 | -.0168 |
| 9 | 52 | .6003 | .0901 | .1162 |
| 9 | 53 | .6003 | .1162 | .0901 |
| 9 | 54 | .6003 | .1243 | .0524 |
| 9 | 55 | .6003 | .1250 | .0168 |
| 9 | 56 | .6003 | .1250 | -.0168 |
| 10 | 57 | .8809 | .0870 | .1138 |
| 10 | 58 | .8809 | .1123 | .0885 |
| 10 | 59 | .8810 | .1205 | .0523 |
| 10 | 60 | .8810 | .1213 | .0177 |
| 10 | 61 | .8810 | .1213 | -.0148 |
| 11 | 62 | 1.0007 | .0796 | .1081 |
| 11 | 63 | 1.0008 | .1109 | .0520 |
| 11 | 64 | 1.0009 | .1119 | -.0097 |
| 11 | 65 | 1.0007 | .1029 | -.0744 |
| 11 | 66 | 1.0008 | .0467 | -.1056 |
| 12 | 67 | 1.1621 | .0128 | .1071 |
| 12 | 68 | 1.1619 | .0396 | .1059 |
| 12 | 69 | 1.1618 | .0669 | .0985 |
| 12 | 70 | 1.1618 | .0866 | .0789 |
| 12 | 71 | 1.1619 | .0941 | .0515 |
| 12 | 72 | 1.1621 | .0953 | .0247 |
| 12 | 73 | 1.1621 | .0953 | -.0009 |
| 12 | 74 | 1.1619 | .0941 | -.0277 |
| 12 | 75 | 1.1618 | .0866 | -.0551 |
| 12 | 76 | 1.1618 | .0669 | -.0747 |
| 12 | 77 | 1.1619 | .0396 | -.0822 |
| 12 | 78 | 1.1621 | .0128 | -.0834 |
| 13 | 79 | 1.3460 | .0099 | .0943 |
| 13 | 80 | 1.3453 | .0510 | .0865 |
| 13 | 81 | 1.3453 | .0726 | .0509 |
| 13 | 82 | 1.3460 | .0739 | .0105 |
| 13 | 83 | 1.3453 | .0661 | -.0306 |
| 13 | 84 | 1.3453 | .0305 | -.0522 |
| 14 | 85 | 1.5307 | .0070 | .0816 |
| 14 | 86 | 1.5300 | .0355 | .0749 |
| 14 | 87 | 1.5300 | .0513 | .0503 |
| 14 | 88 | 1.5307 | .0527 | .0219 |
| 15 | 89 | .0517 | -.0070 | .0064 |
| 15 | 90 | .0517 | -.0353 | -.0005 |
| 15 | 91 | .0516 | -.0558 | -.0231 |
| 15 | 92 | .0516 | -.0595 | -.0541 |
| 15 | 93 | .0517 | -.0475 | -.0826 |
| 15 | 94 | .0518 | -.0212 | -.0969 |

TABLE III. - CONTINUED

| STRIP | ORIFICE | X/R | Y/R | Z/R |
|-------|---------|-------|--------|--------|
| 16 | 95 | .0941 | -.0097 | .0387 |
| 16 | 96 | .0941 | -.0294 | .0366 |
| 16 | 97 | .0942 | -.0491 | .0300 |
| 16 | 98 | .0941 | -.0656 | .0167 |
| 16 | 99 | .0940 | -.0755 | -.0021 |
| 16 | 100 | .0940 | -.0791 | -.0231 |
| 16 | 101 | .0940 | -.0791 | -.0442 |
| 17 | 102 | .1451 | -.0120 | .0667 |
| 17 | 103 | .1452 | -.0367 | .0648 |
| 17 | 104 | .1452 | -.0617 | .0571 |
| 17 | 105 | .1451 | -.0817 | .0402 |
| 17 | 106 | .1451 | -.0923 | .0159 |
| 17 | 107 | .1450 | -.0954 | -.0100 |
| 17 | 108 | .1450 | -.0954 | -.0355 |
| 18 | 109 | .2007 | -.0138 | .0892 |
| 18 | 110 | .2007 | -.0721 | .0792 |
| 18 | 111 | .2007 | -.1054 | .0303 |
| 18 | 112 | .2006 | -.1077 | -.0284 |
| 18 | 113 | .2007 | -.0948 | -.0870 |
| 18 | 114 | .2007 | -.0426 | -.1154 |
| 19 | 115 | .2562 | -.0152 | .1056 |
| 19 | 116 | .2563 | -.0470 | .1042 |
| 19 | 117 | .2563 | -.0795 | .0957 |
| 19 | 118 | .2563 | -.1045 | .0731 |
| 19 | 119 | .2562 | -.1145 | .0406 |
| 19 | 120 | .2561 | -.1162 | .0080 |
| 19 | 121 | .2561 | -.1162 | -.0231 |
| 20 | 122 | .3074 | -.0160 | .1162 |
| 20 | 123 | .3074 | -.0499 | .1150 |
| 20 | 124 | .3074 | -.0852 | .1066 |
| 20 | 125 | .3074 | -.1106 | .0822 |
| 20 | 126 | .3074 | -.1200 | .0471 |
| 20 | 127 | .3073 | -.1213 | .0128 |
| 20 | 128 | .3073 | -.1213 | -.0197 |
| 21 | 129 | .3498 | -.0165 | .1220 |
| 21 | 130 | .3499 | -.0882 | .1126 |
| 21 | 131 | .3498 | -.1229 | .0506 |
| 21 | 132 | .3498 | -.1239 | -.0178 |
| 21 | 133 | .3499 | -.1141 | -.0896 |
| 21 | 134 | .3498 | -.0515 | -.1234 |
| 22 | 135 | .4669 | -.0901 | .1162 |
| 22 | 136 | .4669 | -.1162 | .0901 |
| 22 | 137 | .4669 | -.1243 | .0524 |
| 22 | 138 | .4669 | -.1250 | .0168 |
| 22 | 139 | .4669 | -.1250 | -.0168 |
| 23 | 140 | .6003 | -.0901 | .1162 |
| 23 | 141 | .6003 | -.1162 | .0901 |
| 23 | 142 | .6003 | -.1243 | .0524 |

TABLE III. - CONTINUED

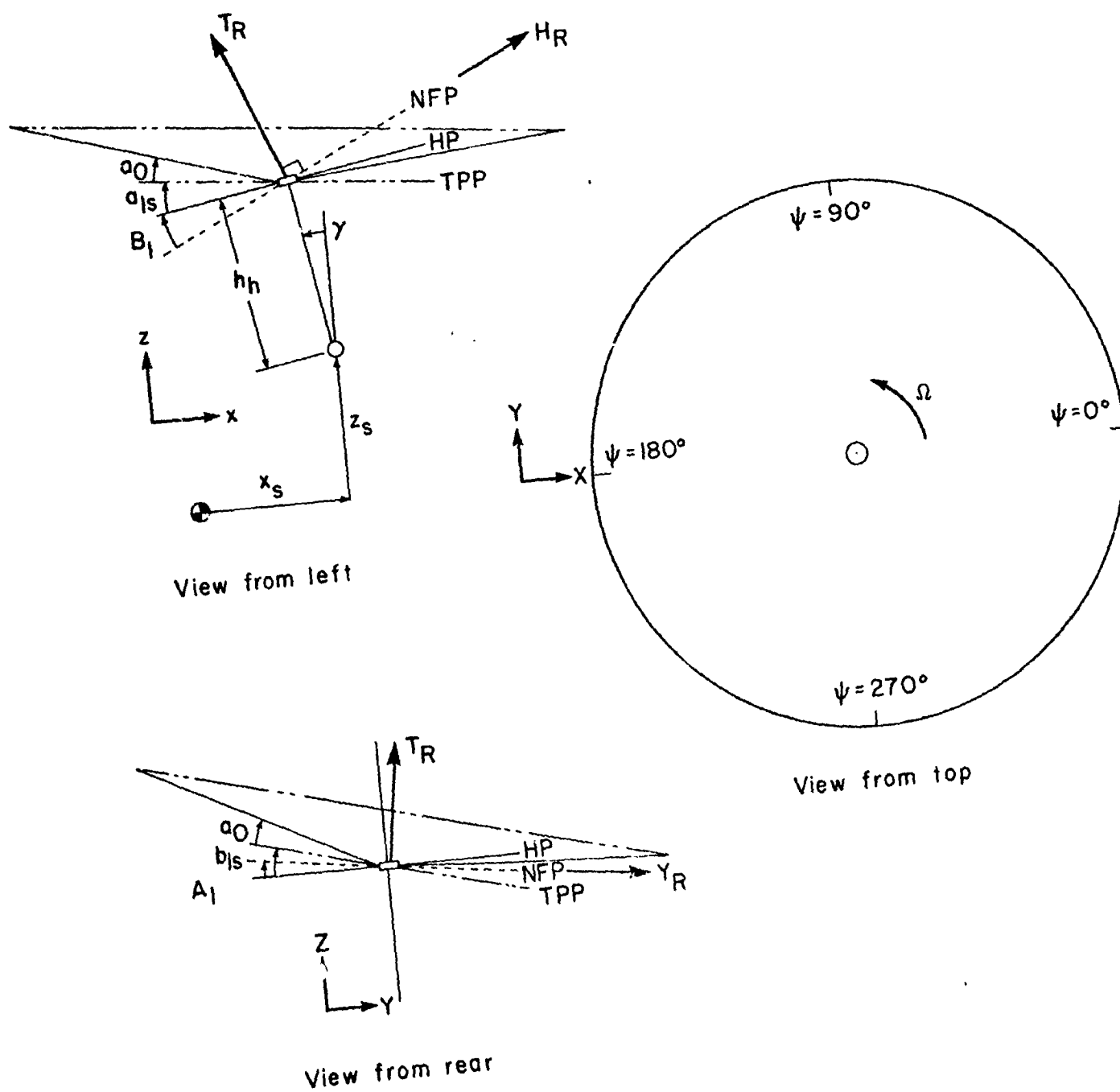
| STRIP | ORIFICE | X/R | Y/R | Z/R |
|-------|---------|--------|--------|--------|
| 23 | 143 | .6003 | -.1250 | .0168 |
| 23 | 144 | .6003 | -.1250 | -.0168 |
| 24 | 145 | .8809 | -.0870 | .1138 |
| 24 | 146 | .8809 | -.1123 | .0885 |
| 24 | 147 | .8810 | -.1205 | .0523 |
| 24 | 148 | .8810 | -.1213 | .0177 |
| 24 | 149 | .8810 | -.1213 | -.0148 |
| 25 | 150 | 1.0007 | -.0796 | .1081 |
| 25 | 151 | 1.0008 | -.1109 | .0520 |
| 25 | 152 | 1.0009 | -.1119 | -.0097 |
| 25 | 153 | 1.0007 | -.1029 | -.0744 |
| 25 | 154 | 1.0008 | -.0467 | -.1056 |
| 26 | 155 | 1.1621 | -.0128 | .1071 |
| 26 | 156 | 1.1619 | -.0396 | .1059 |
| 26 | 157 | 1.1618 | -.0669 | .0985 |
| 26 | 158 | 1.1618 | -.0866 | .0789 |
| 26 | 159 | 1.1619 | -.0941 | .0515 |
| 26 | 160 | 1.1621 | -.0953 | .0247 |
| 26 | 161 | 1.1621 | -.0953 | -.0009 |
| 26 | 162 | 1.1619 | -.0941 | -.0277 |
| 26 | 163 | 1.1618 | -.0866 | -.0551 |
| 26 | 164 | 1.1618 | -.0669 | -.0747 |
| 26 | 165 | 1.1619 | -.0396 | -.0822 |
| 26 | 166 | 1.1621 | -.0128 | -.0834 |
| 27 | 167 | 1.3460 | -.0099 | .0943 |
| 27 | 168 | 1.3453 | -.0510 | .0865 |
| 27 | 169 | 1.3453 | -.0726 | .0509 |
| 27 | 170 | 1.3460 | -.0739 | .0105 |
| 27 | 171 | 1.3453 | -.0661 | -.0306 |
| 27 | 172 | 1.3453 | -.0305 | -.0522 |
| 28 | 173 | 1.5307 | -.0070 | .0816 |
| 28 | 174 | 1.5300 | -.0355 | .0749 |
| 28 | 175 | 1.5300 | -.0513 | .0503 |
| 28 | 176 | 1.5307 | -.0527 | .0219 |

TEST IV.- TEST CONDITIONS

| Run | Point | μ (knots) | α_F | β_F | RPM | C_T | a_{1s} | b_{1s} |
|-----|-------|---------------|------------|-----------|------|---|----------|----------|
| 10 | 79 | (41.2) | -10.0 | 0 | 1200 | 0.00300 .00467 .00639 .00819 .00988 .00637 .00642 | 0 | 0 |
| | 80 | (41.3) | - 5.0 | 0 | | | | |
| | 81 | (41.2) | 5.0 | 0 | | | | |
| 11 | 82 | (41.2) | 0 | 0 | | | | |
| | 83 | (41.2) | | 5.0 | | | | |
| | 84 | (41.3) | | 0 | | | | |
| | 85 | (41.2) | | -5.0 | | | | |
| | 86 | (41.4) | | -10.0 | | | | |
| | 87 | (41.2) | | -15.0 | | | | |
| | 88 | (81.5) | -10.0 | 0 | | | | |
| 12 | 89 | (81.7) | - 5.0 | 0 | | | | |
| | 90 | (81.7) | 0 | 0 | | | | |
| | 91 | (81.6) | 5.0 | 0 | | | | |
| | 92 | (81.5) | 0 | 0 | | | | |
| 13 | 93 | (81.7) | | -5.0 | | | | |
| | 94 | (81.7) | | 0 | | | | |
| | 95 | (81.8) | | -5.0 | | | | |
| | 96 | (81.7) | | -15.0 | | | | |
| 15 | 121 | 0 | | 0 | | | | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
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| 16 | 132 | | | | | | | |
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| | 139 | | | | | | | |
| | 140 | | | | | | | |
| | 141 | | | | | | | |
| | 142 | | | | | | | |
| 17 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
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| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
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| | 171 | .050 | 0 | | | | | |
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| 20 | 167 | 0.050 | 3.30 | | | | | |
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| 20 | 167 | 0.050 | 3.30 | | | | | |
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| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
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| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
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| 20 | 167 | 0.050 | 3.30 | | | | | |
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| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
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| | 174 | | | | | | | |
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| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | 2.25 | | | | | |
| | 169 | .050 | 1.23 | | | | | |
| | 170 | .050 | 0 | | | | | |
| | 171 | .050 | 0 | | | | | |
| | 172 | .050 | 0 | | | | | |
| | 173 | | | | | | | |
| | 174 | | | | | | | |
| | 175 | | | | | | | |
| | 176 | | | | | | | |
| | 177 | | | | | | | |
| 20 | 167 | 0.050 | 3.30 | | | | | |
| | 168 | .050 | | | | | | |

TABLE IV. - CONTINUED

| Run | Point | μ knots | α_F | β_F | RPM | C_T | a | b |
|-----|-------|-------------|------------|-----------|------|---------|------|------|
| 22 | 137 | 0.054 | 1.60 | 0 | 1200 | 0.00098 | -.68 | .21 |
| | 138 | | 1.23 | | | .00209 | -.50 | .40 |
| | 139 | | 1.18 | | | .00518 | 1.04 | 1.03 |
| | 140 | ↓ | 2.15 | | | .00827 | -.54 | .07 |
| 25 | 147 | .15 | 2.42 | | | .00275 | -.27 | 1.34 |
| | 148 | | 2.86 | | | .00500 | -.38 | 1.49 |
| | 149 | | 3.09 | | | .00706 | -.37 | 1.25 |
| | 150 | ↓ | 2.29 | | | .00781 | -.53 | 1.24 |
| 29 | 177 | .20 | -1.0 | | | .00132 | -.07 | -.19 |
| | 178 | | | | | .00366 | -.10 | -.22 |
| | 179 | | | | | .00559 | -.25 | -.23 |
| | 180 | | | | | .0062 | -.12 | -.18 |
| | 181 | | | | | .00759 | -.09 | -.13 |
| | 182 | ↓ | | | | .00861 | -.18 | -.13 |



(b) Rotor system
Figure 1.- Concluded.

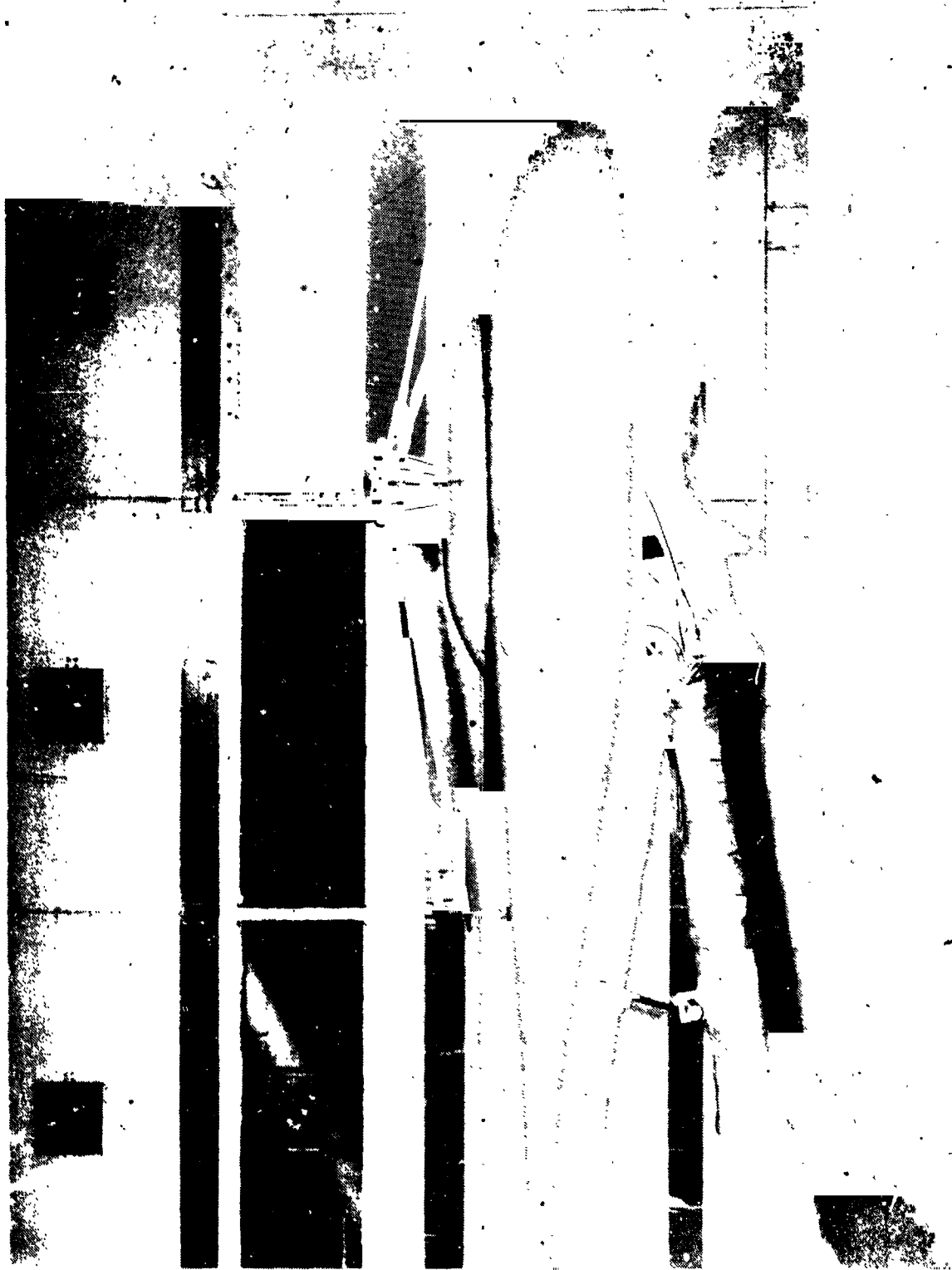


Figure 2.- Wind-tunnel model installed in test section of V-220L tunnel.

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OF POOR QUALITY

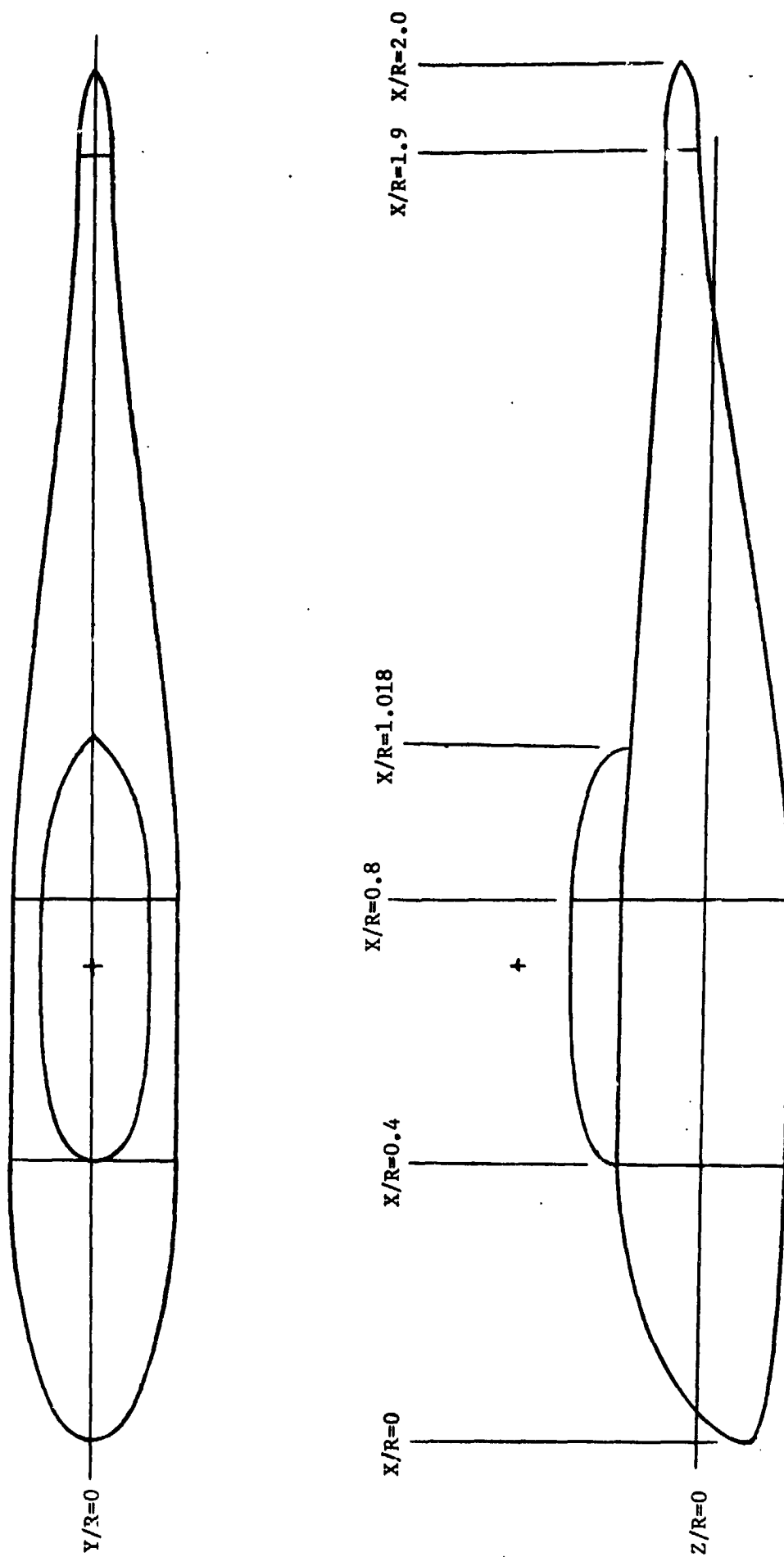


Figure 3.- Fuselage component regions.

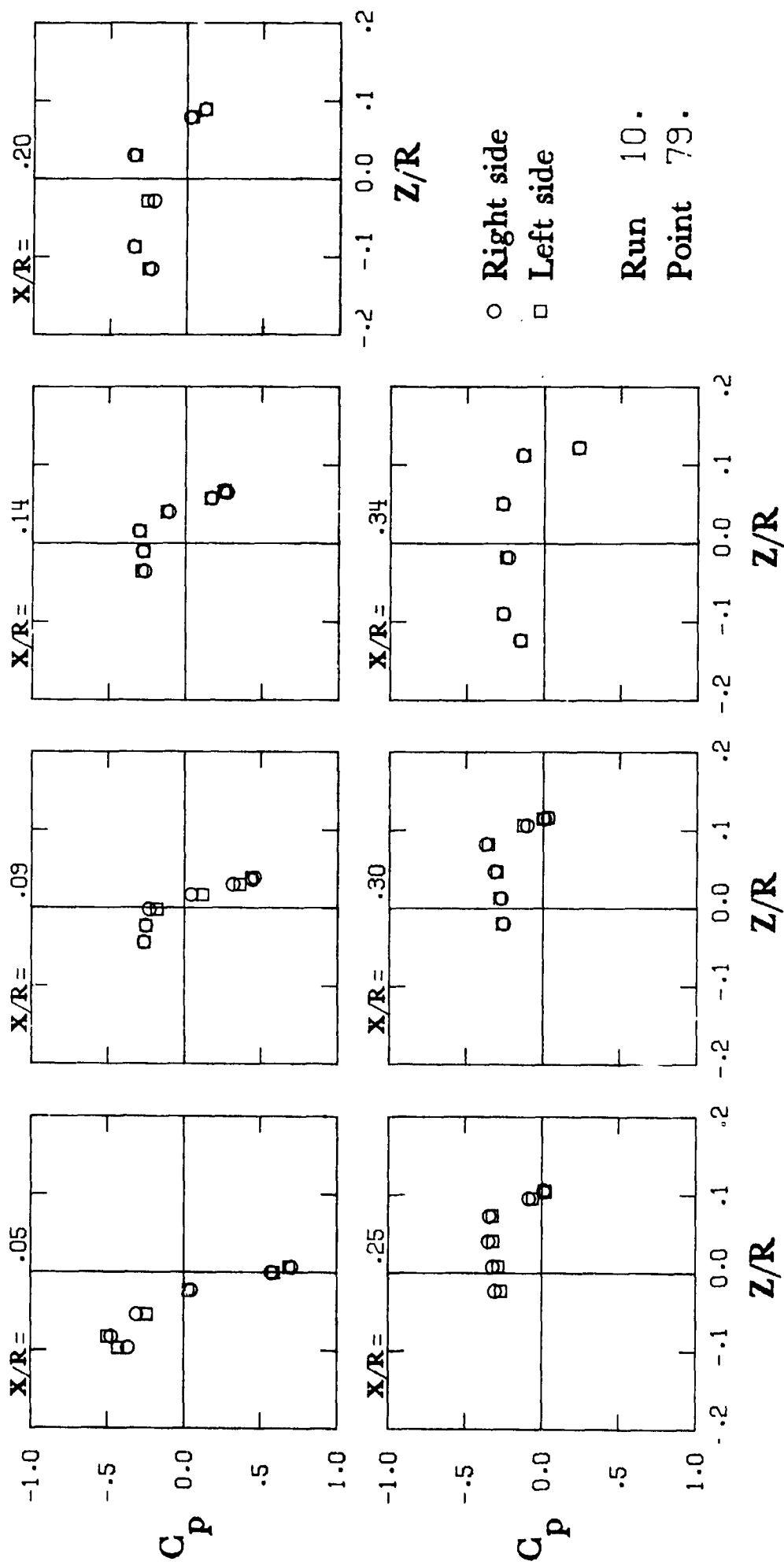


Figure 4. Pressure variations on the body surface.

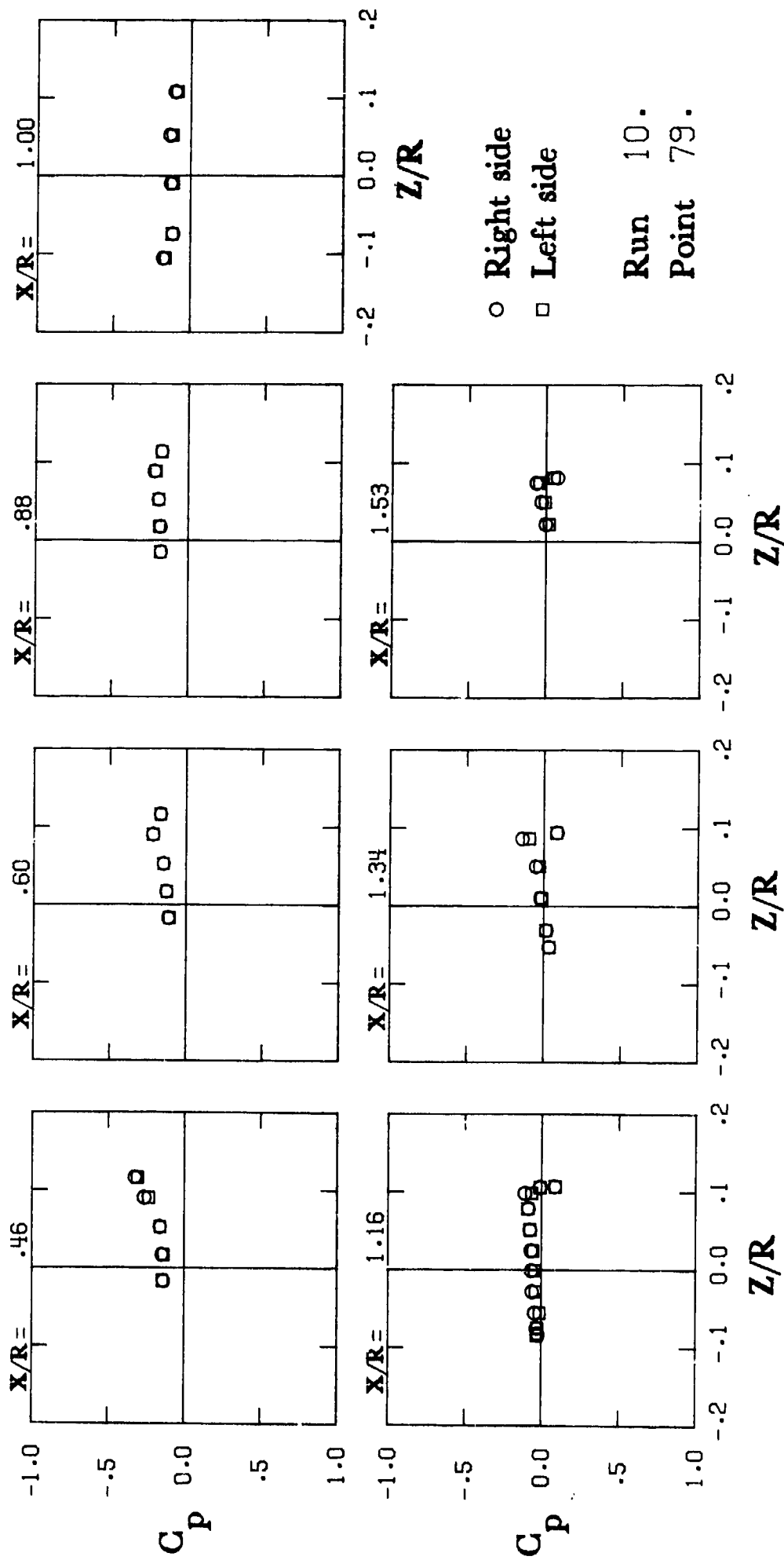


Figure 4. Continued.

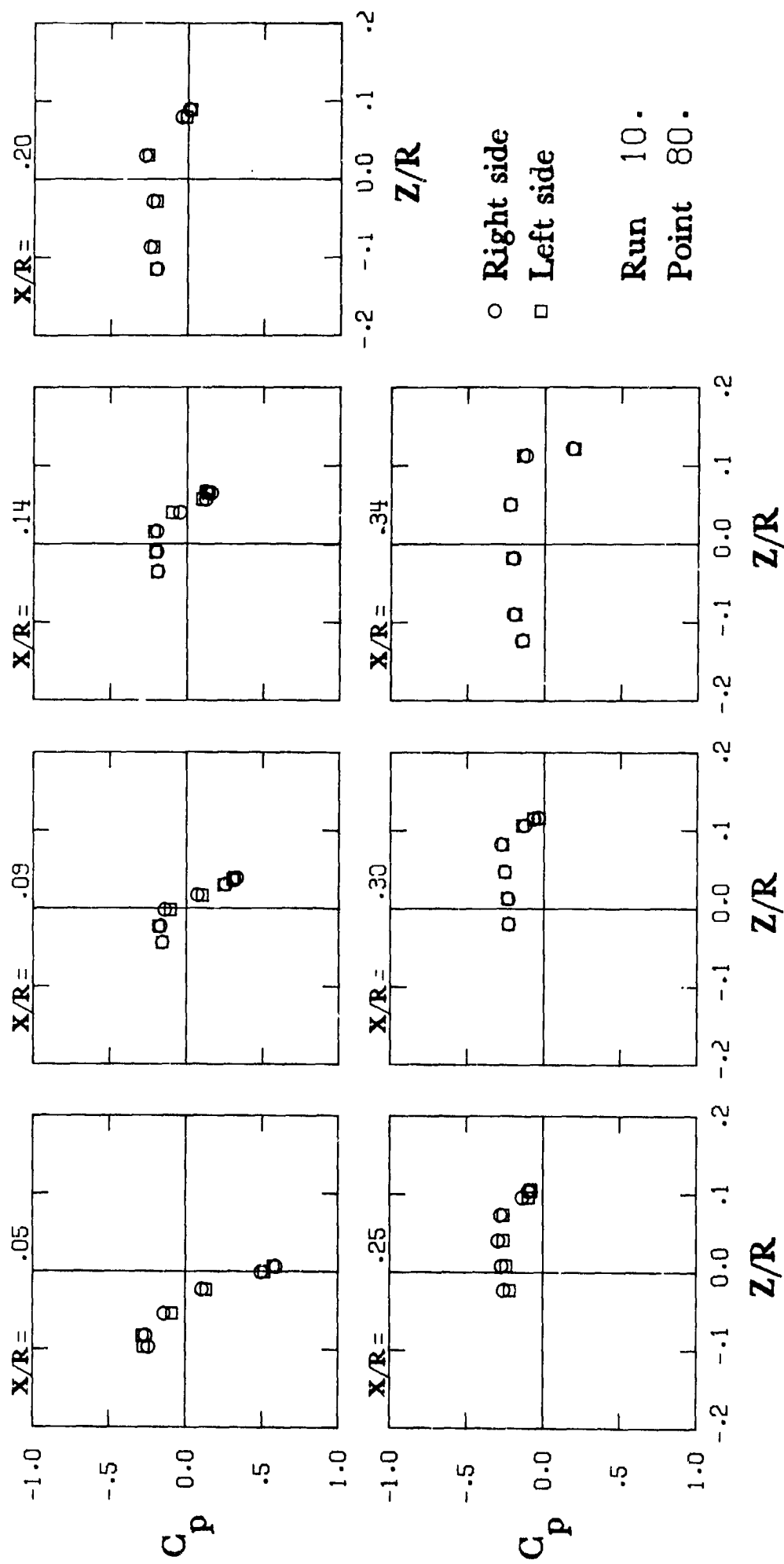


Figure 4. Continued.

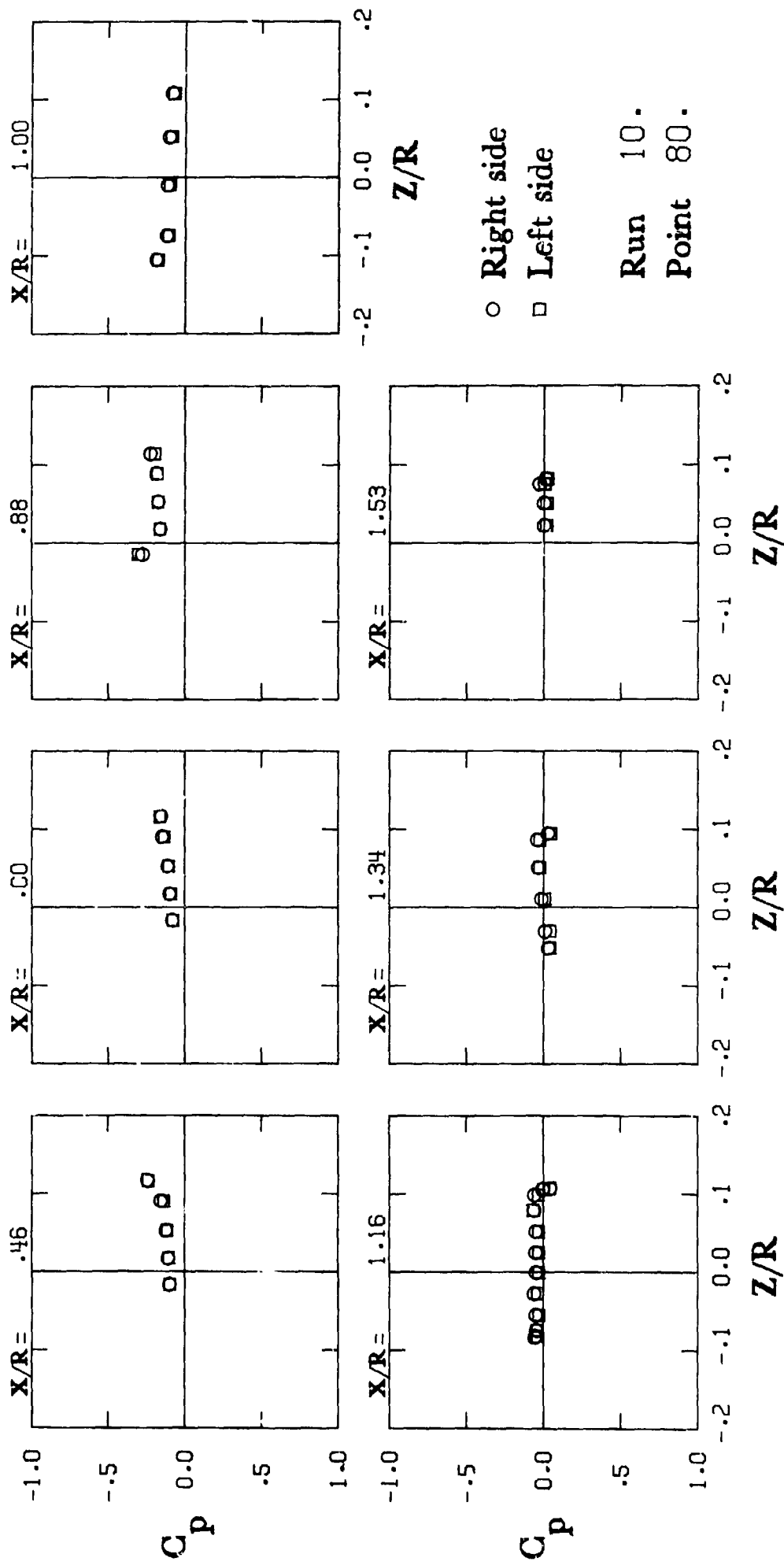


Figure 4. Continued.

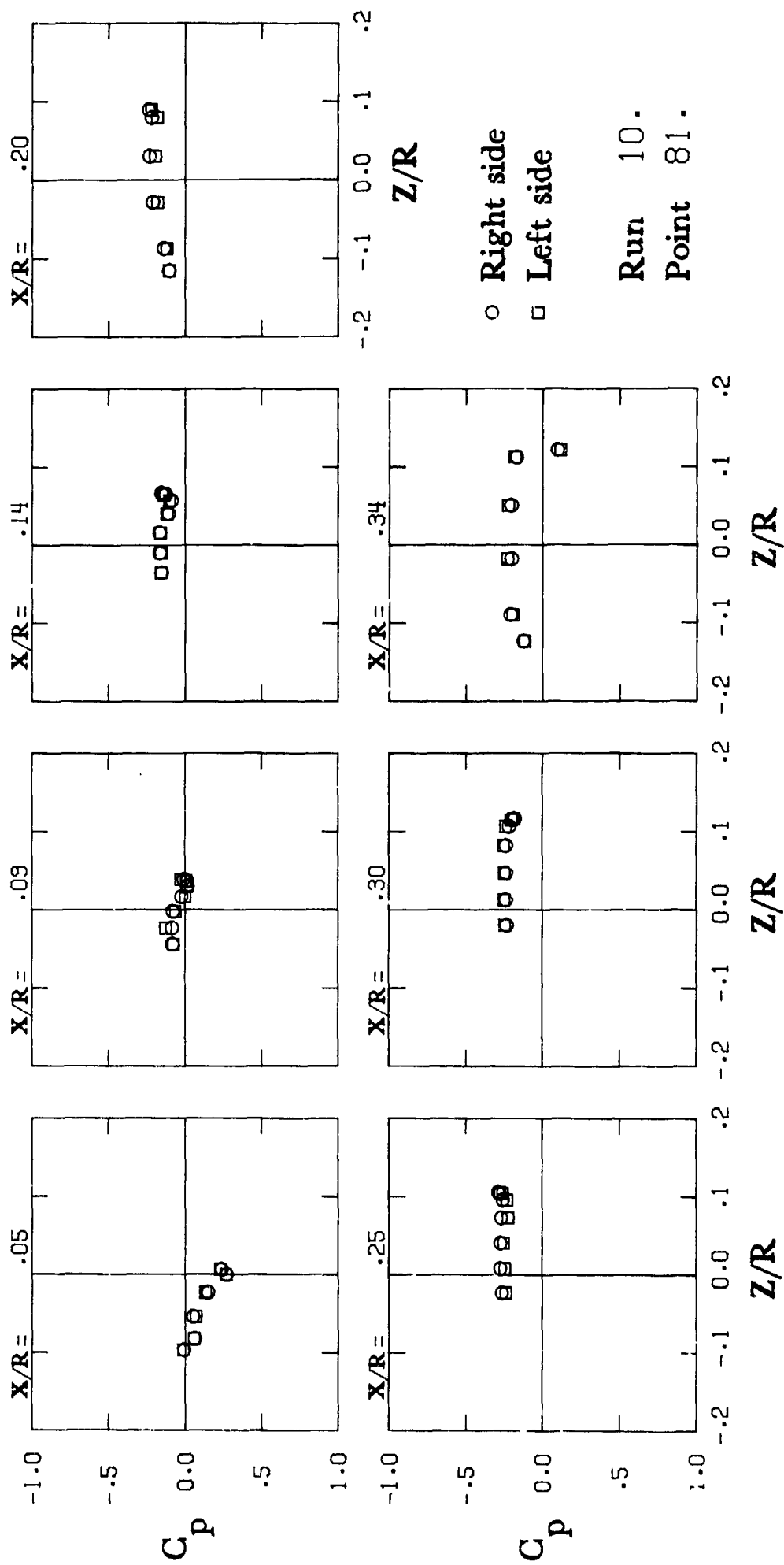


Figure 4. Continued.

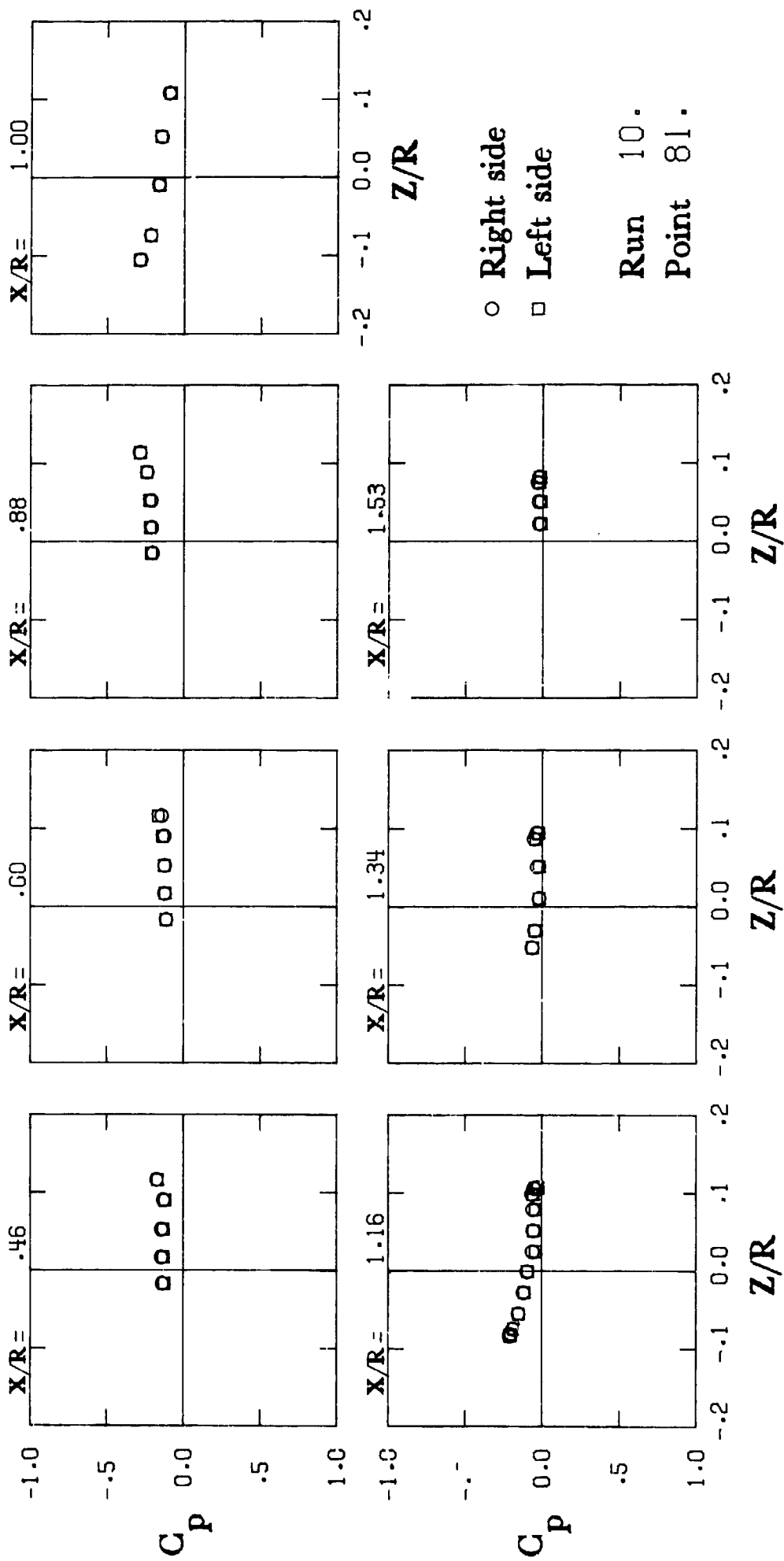


Figure 4. Continued.

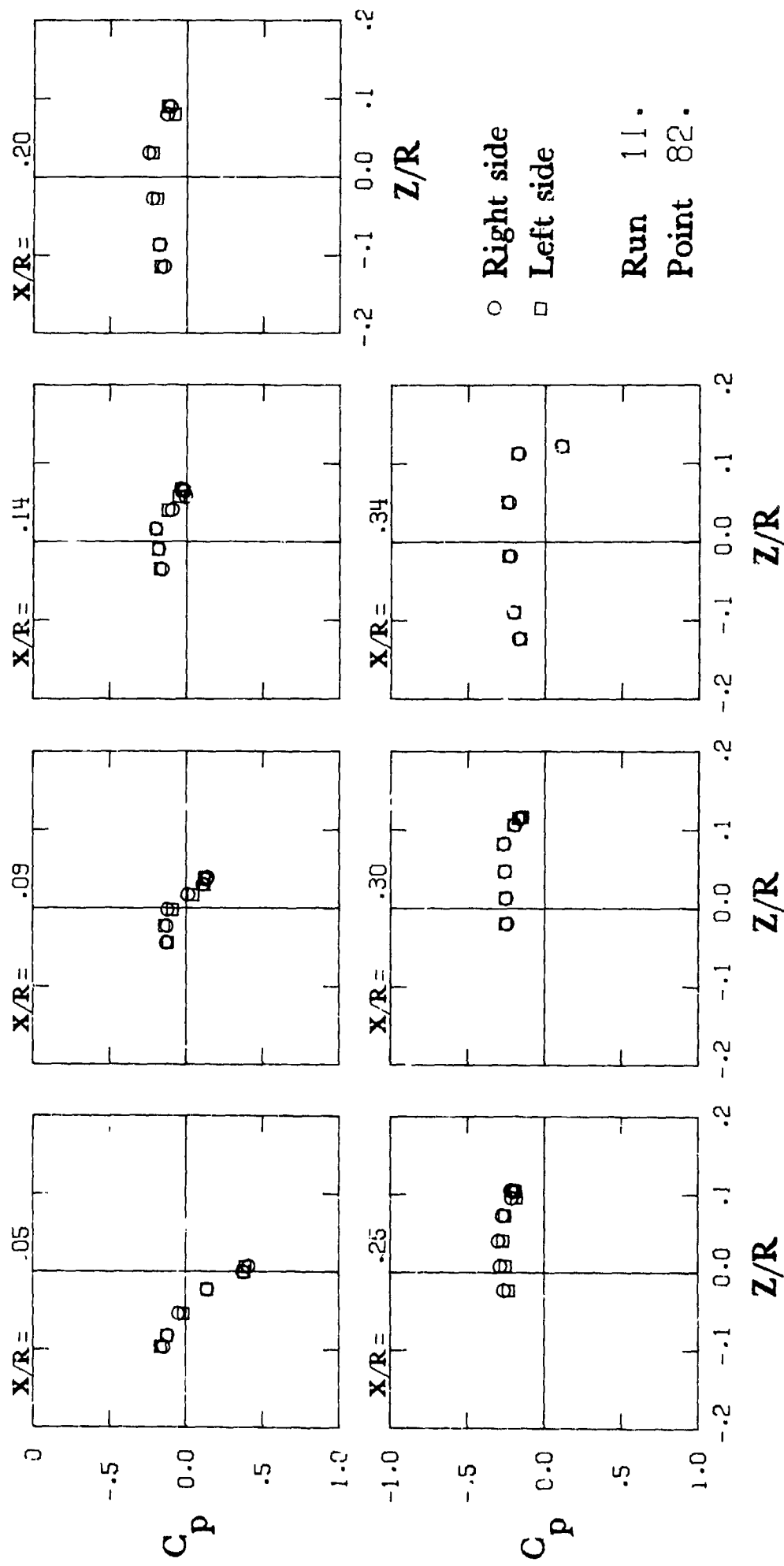


Figure 4. Continued.

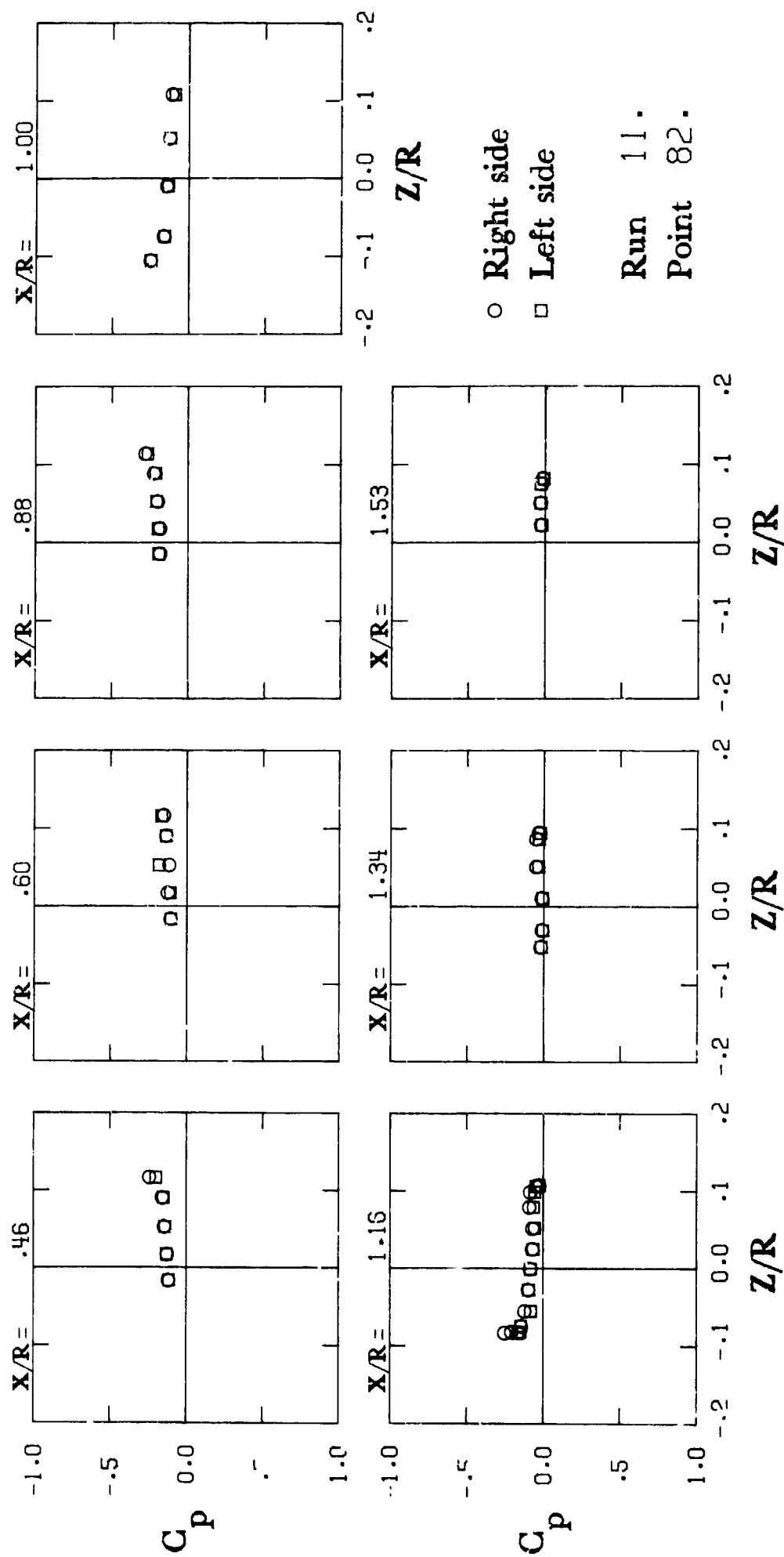


Figure 4. Continued.

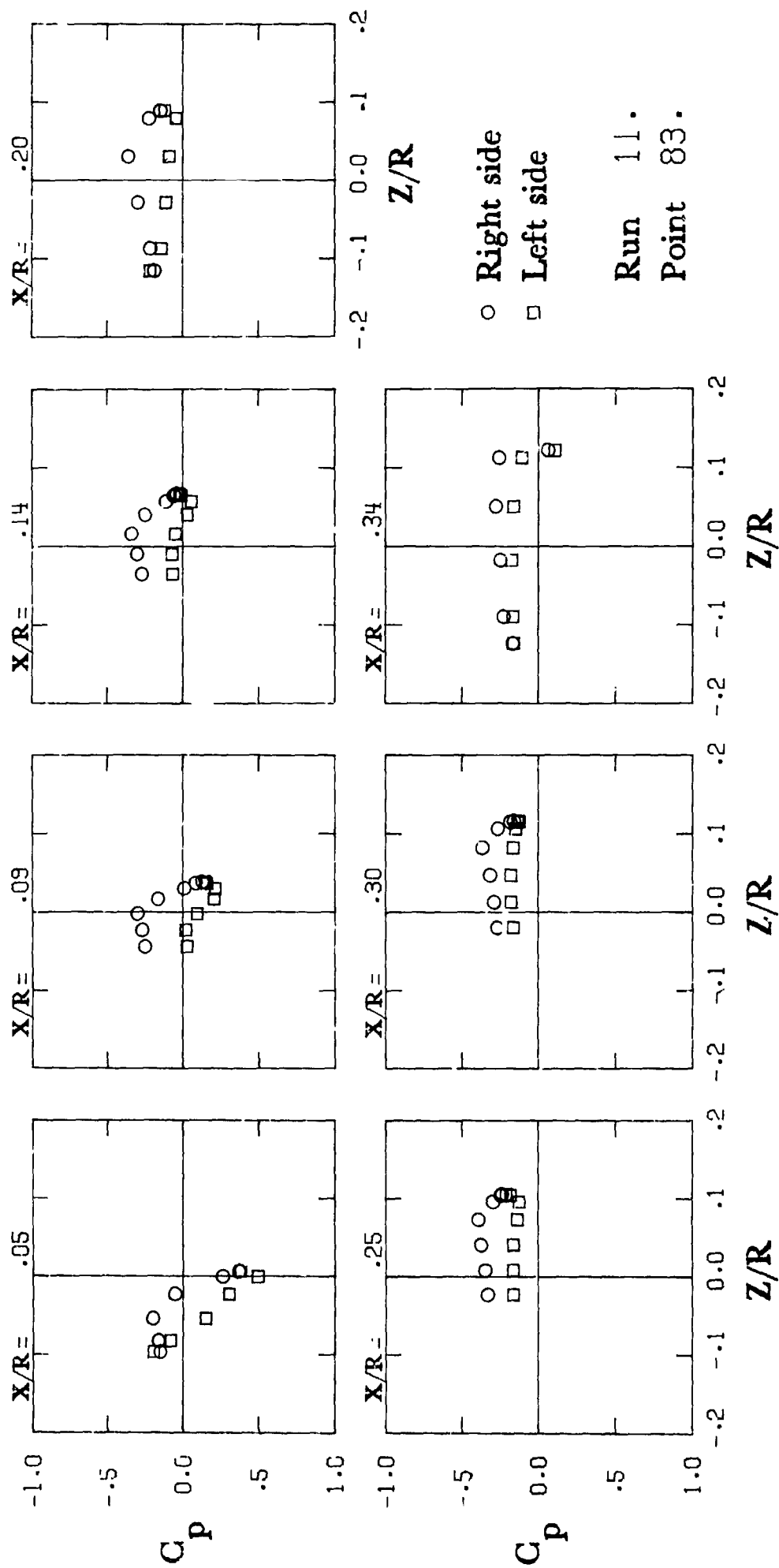


Figure 4. Continued.

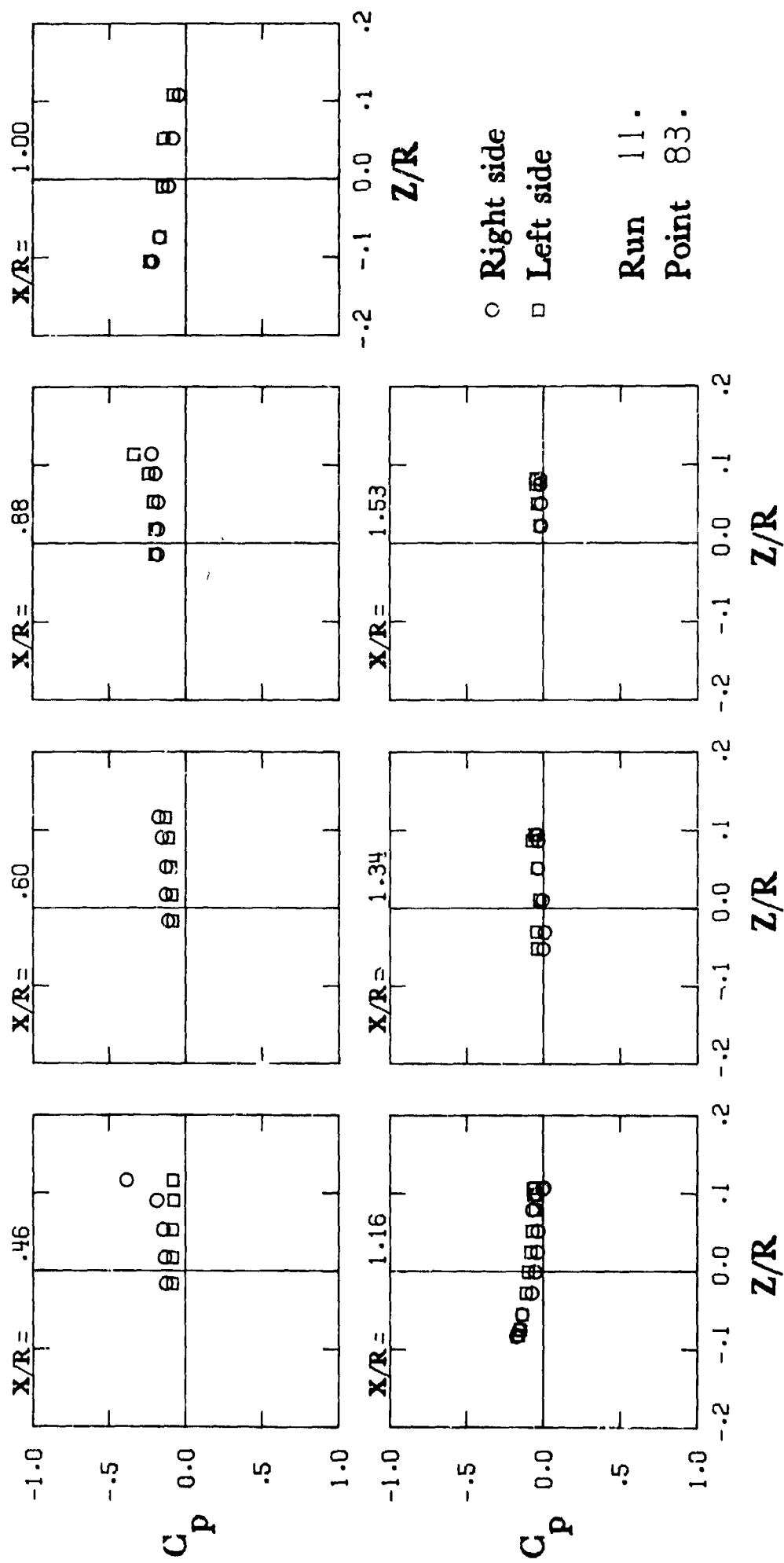


Figure 4. Continued.

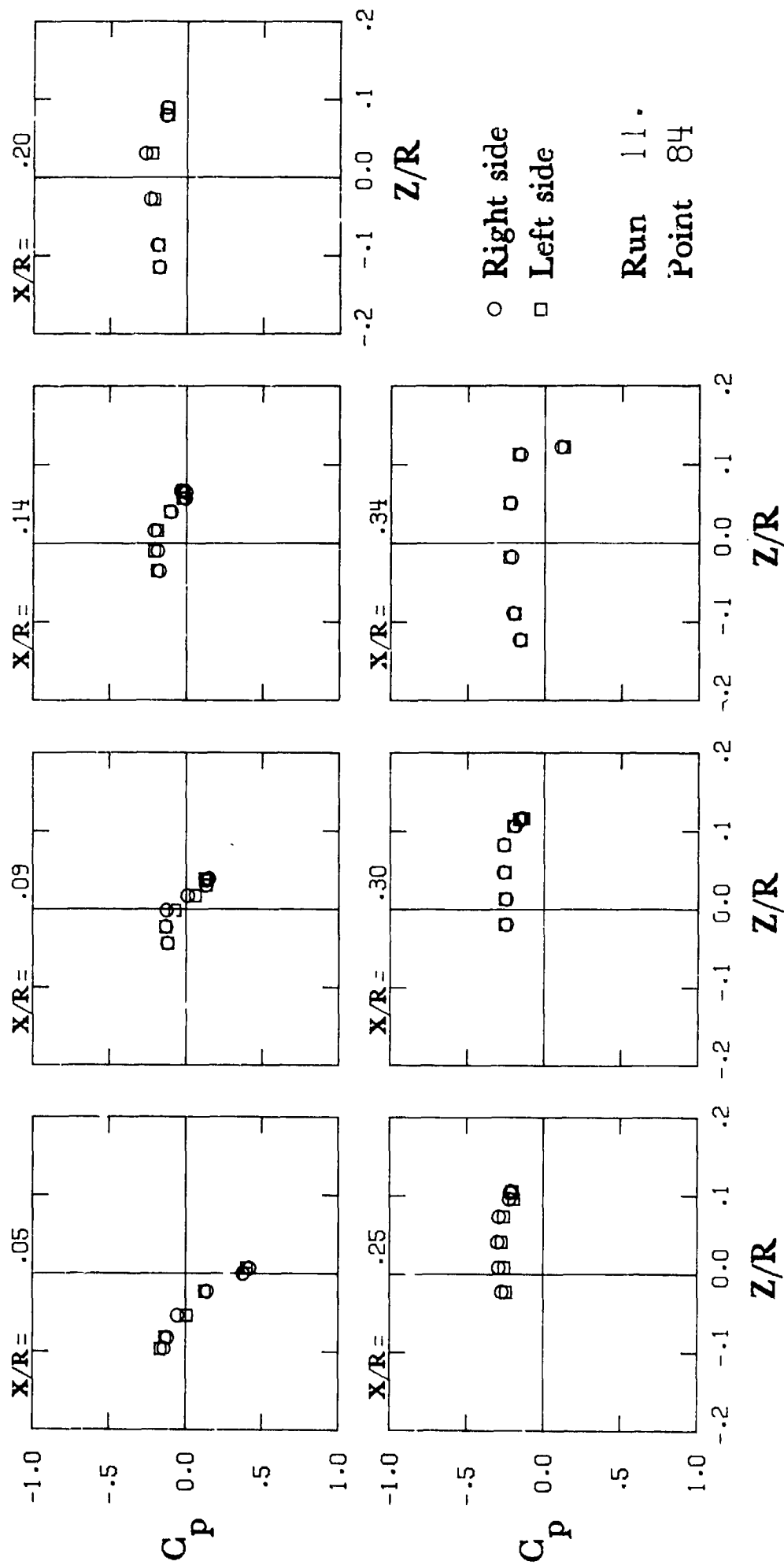


Figure 4. Continued.

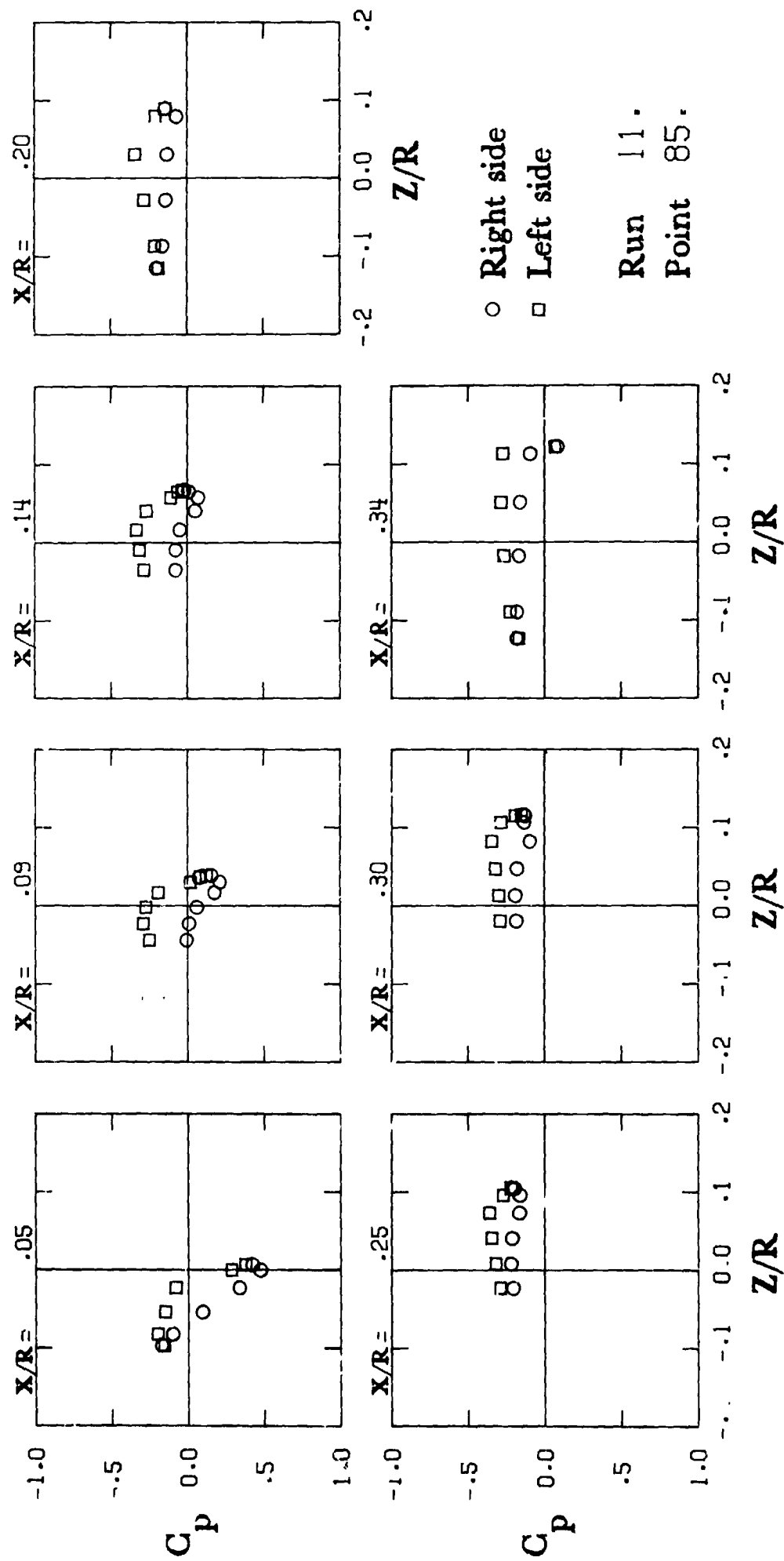


Figure 4. Continued.

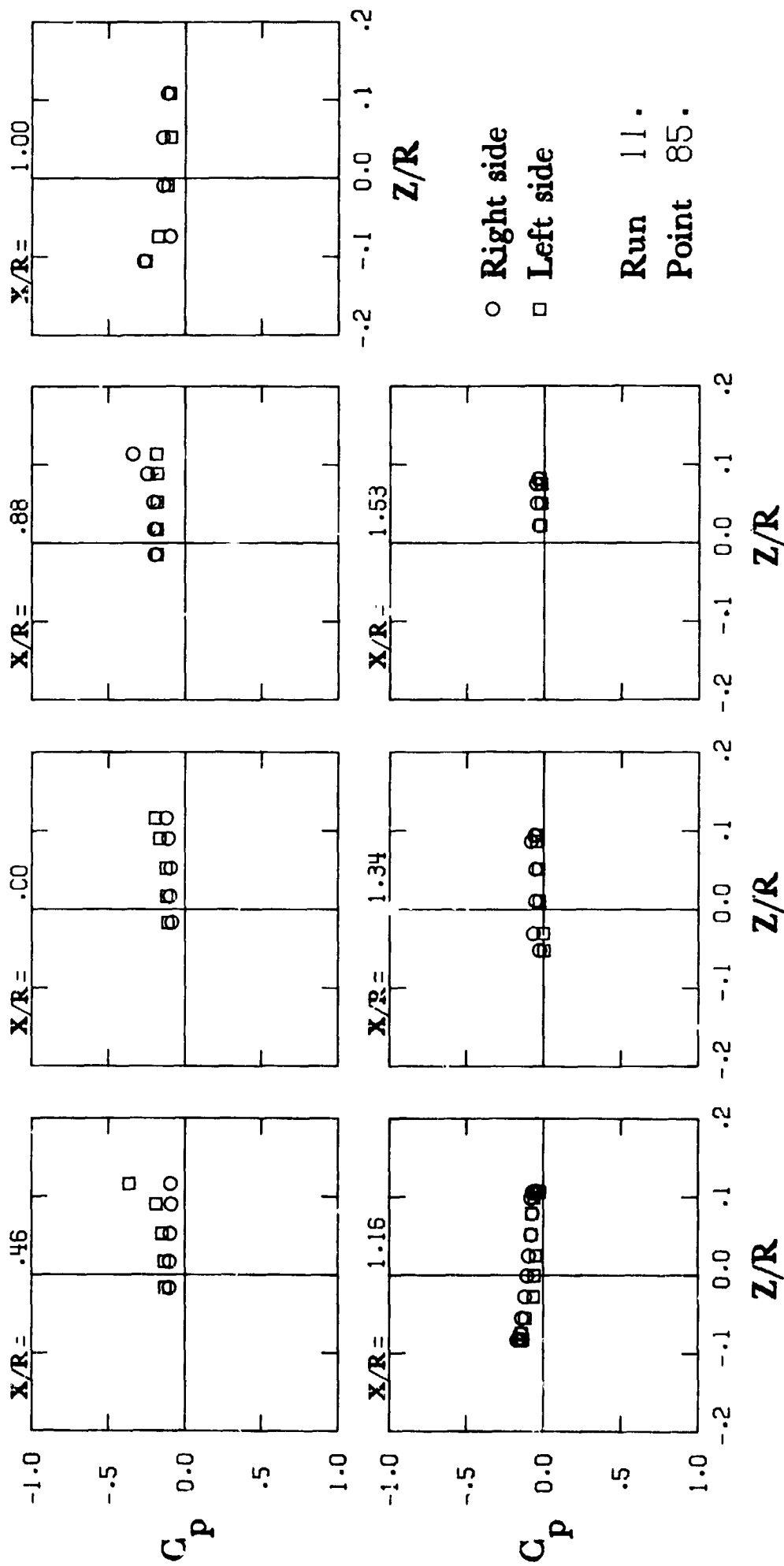


Figure 4. Continued.

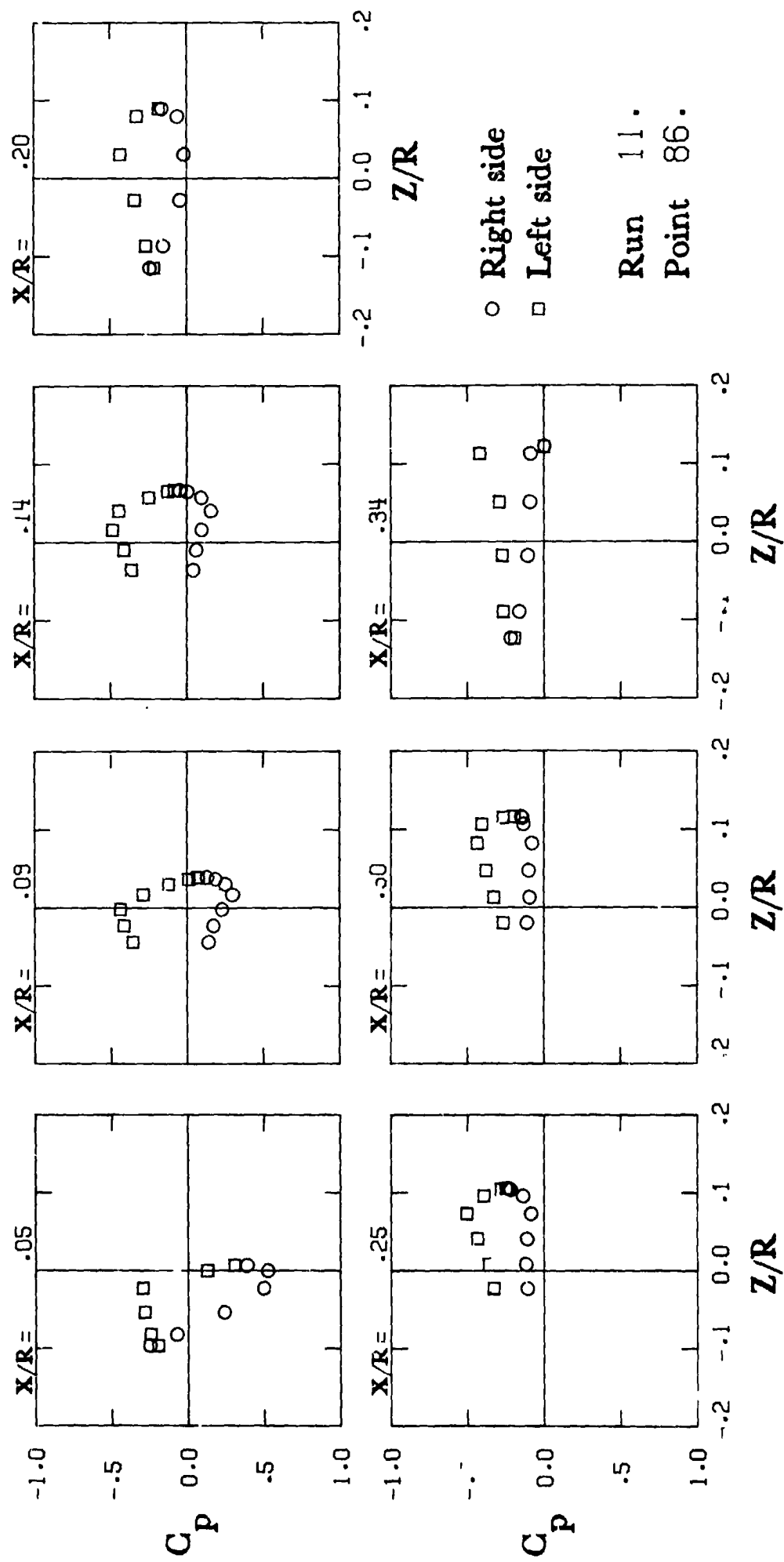


Figure 4. Continued.

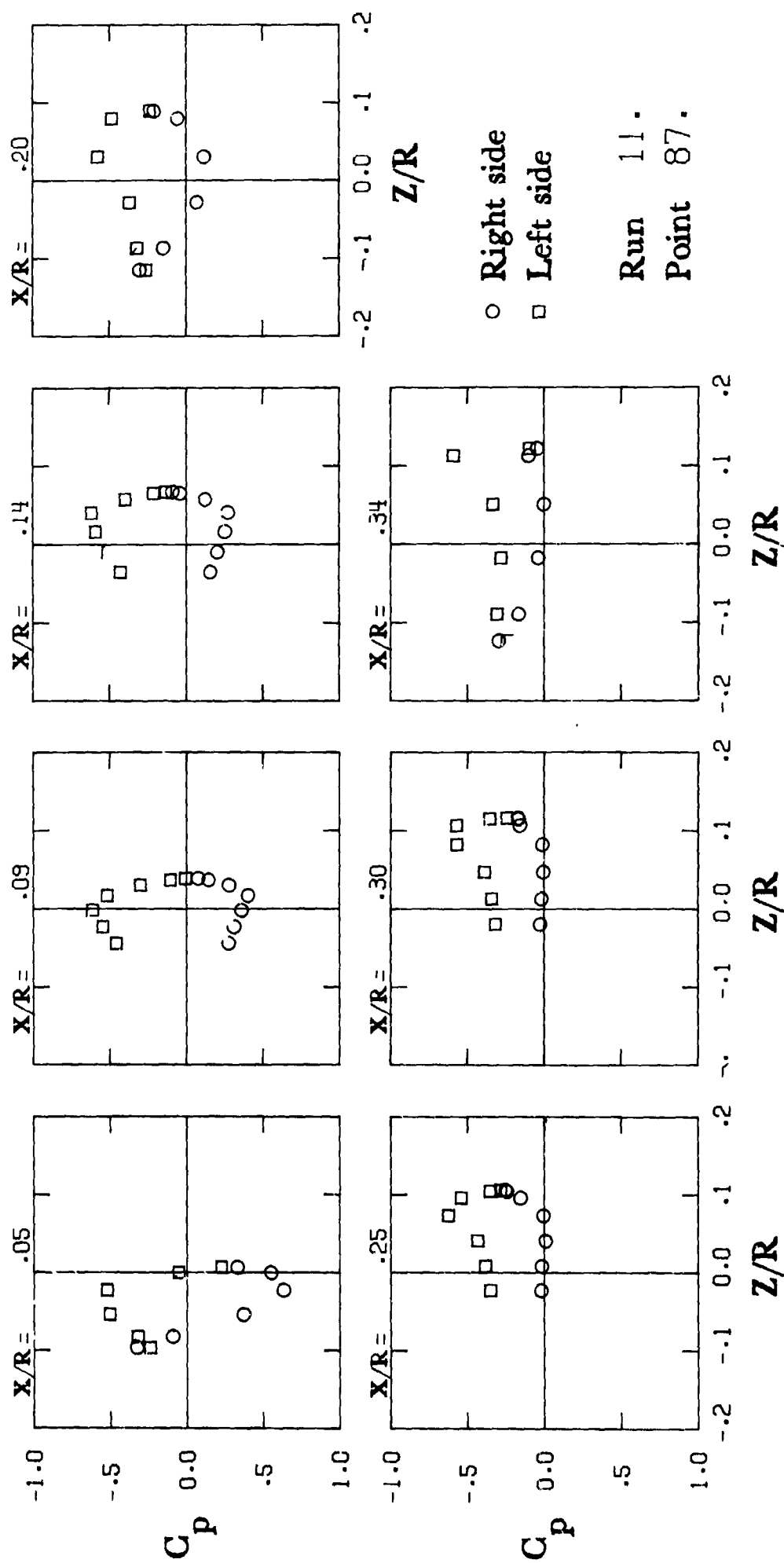


Figure 4. Continued.

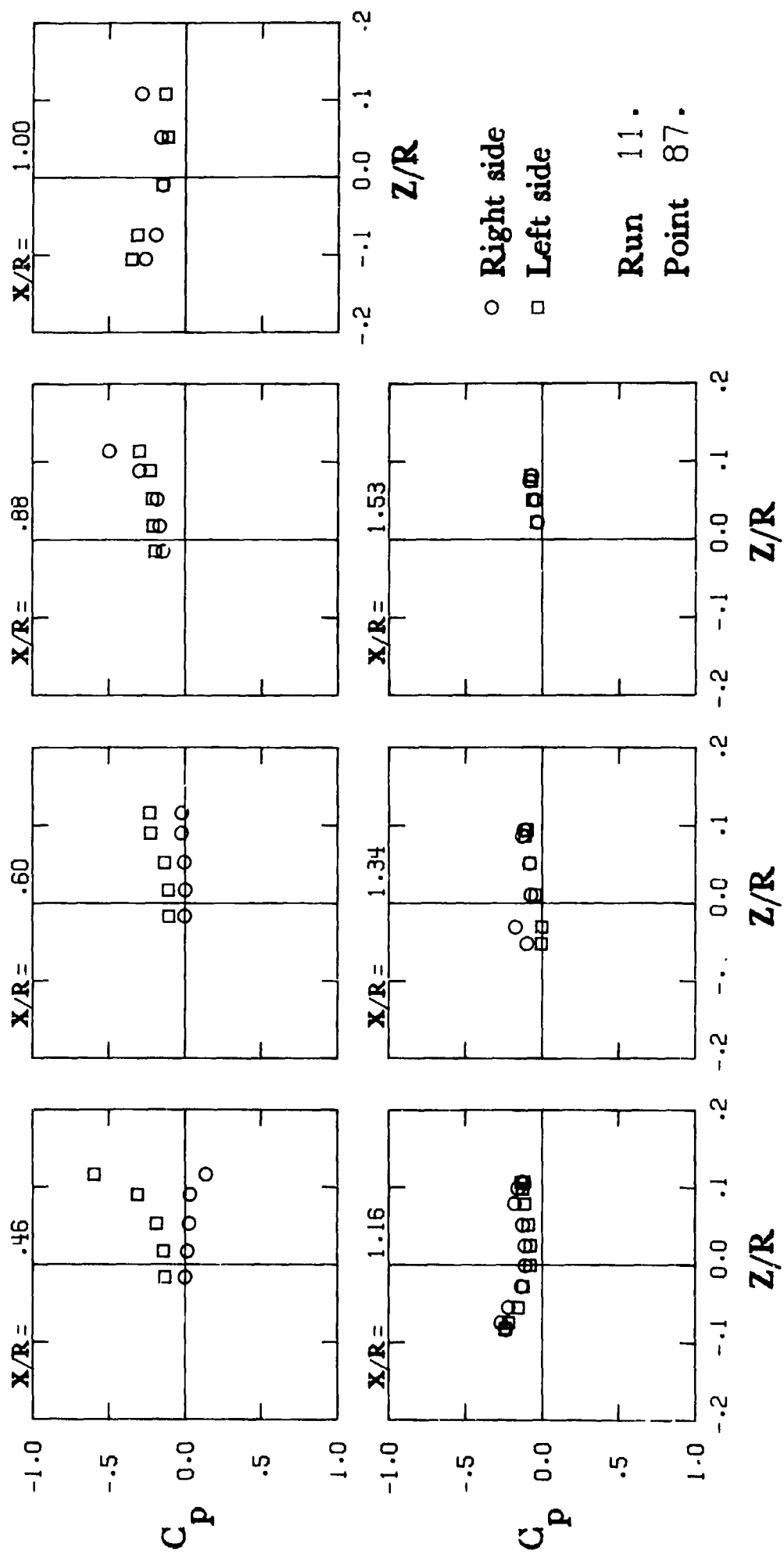


Figure 4. Continued.

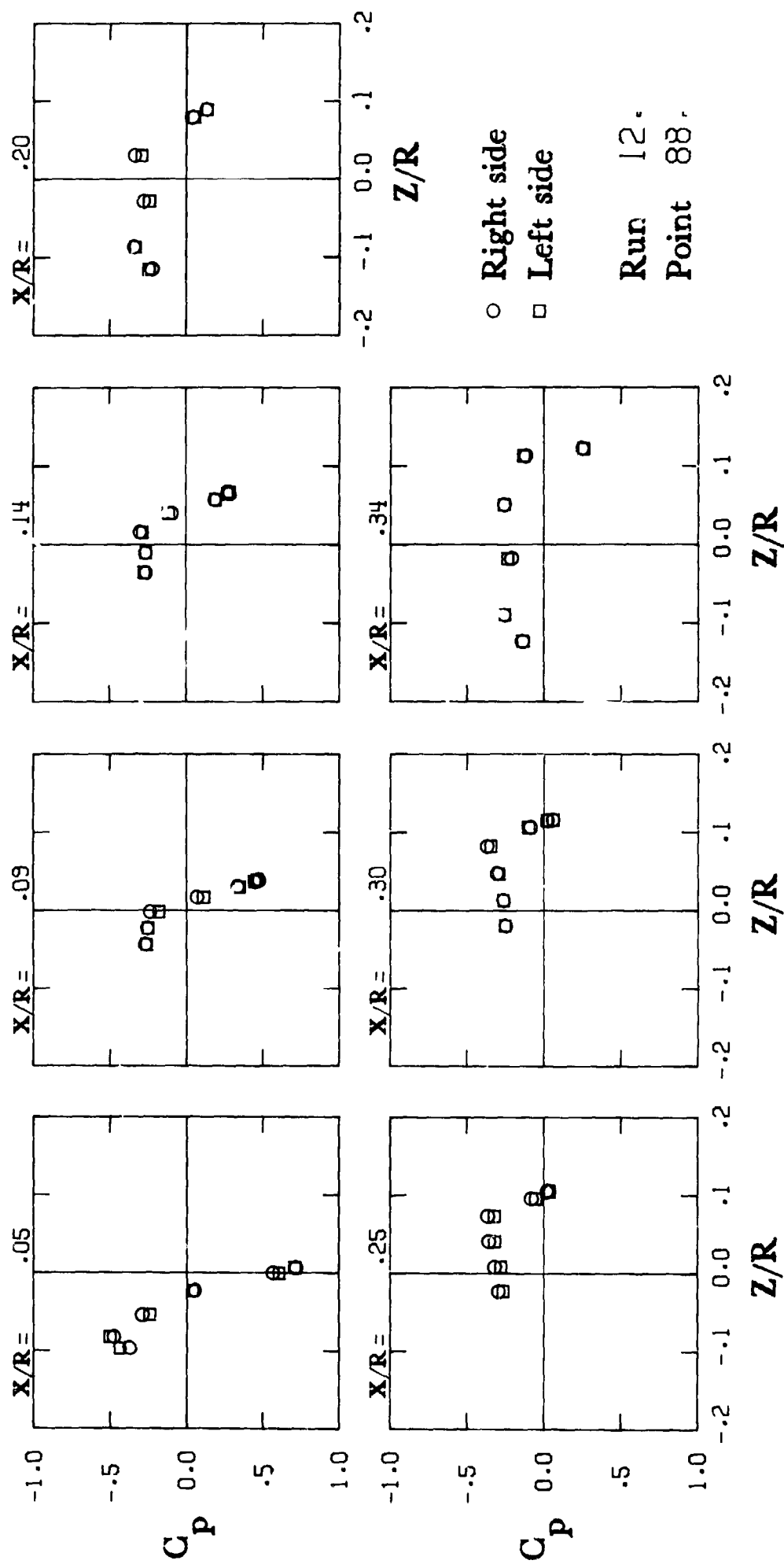


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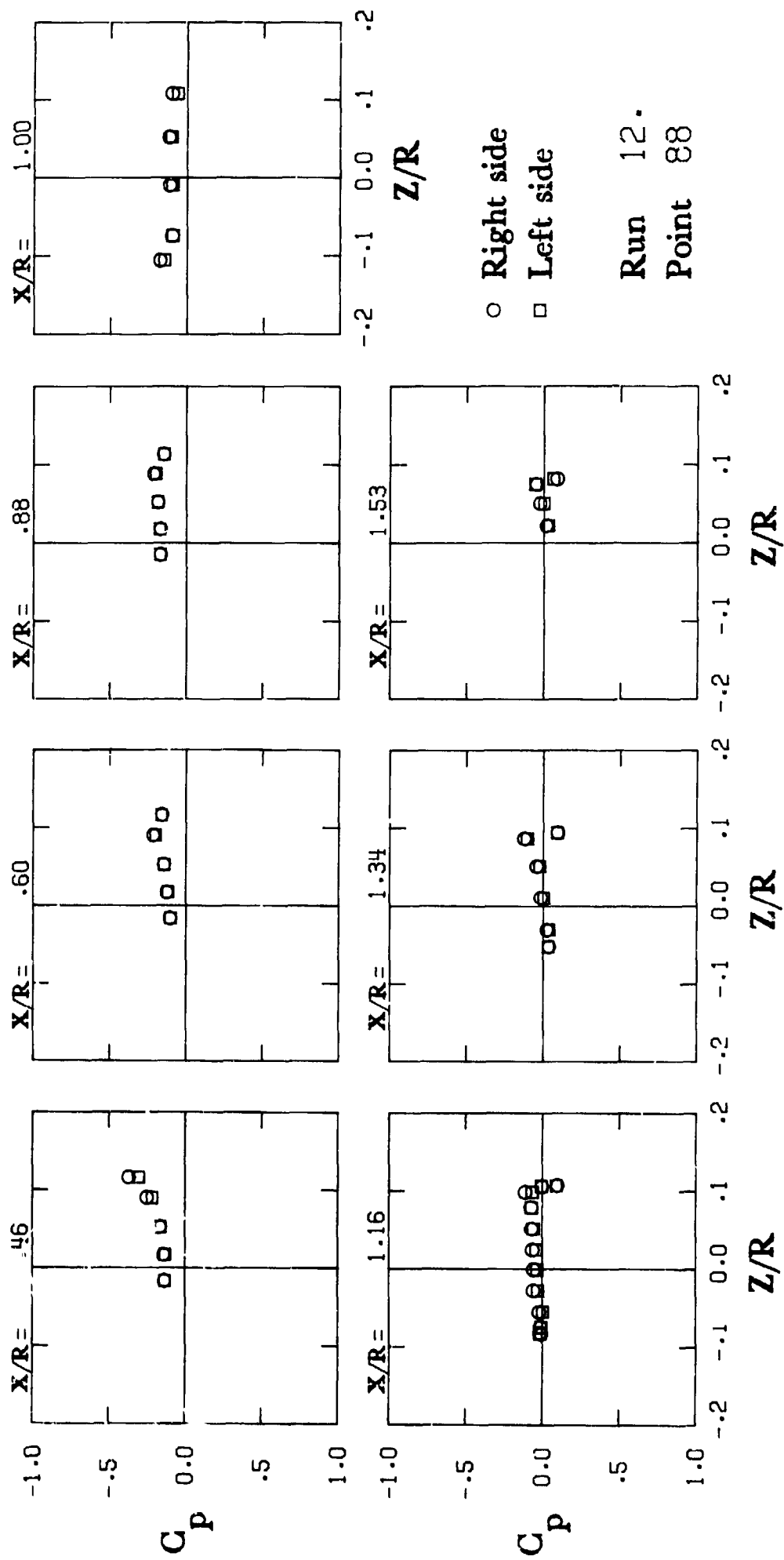


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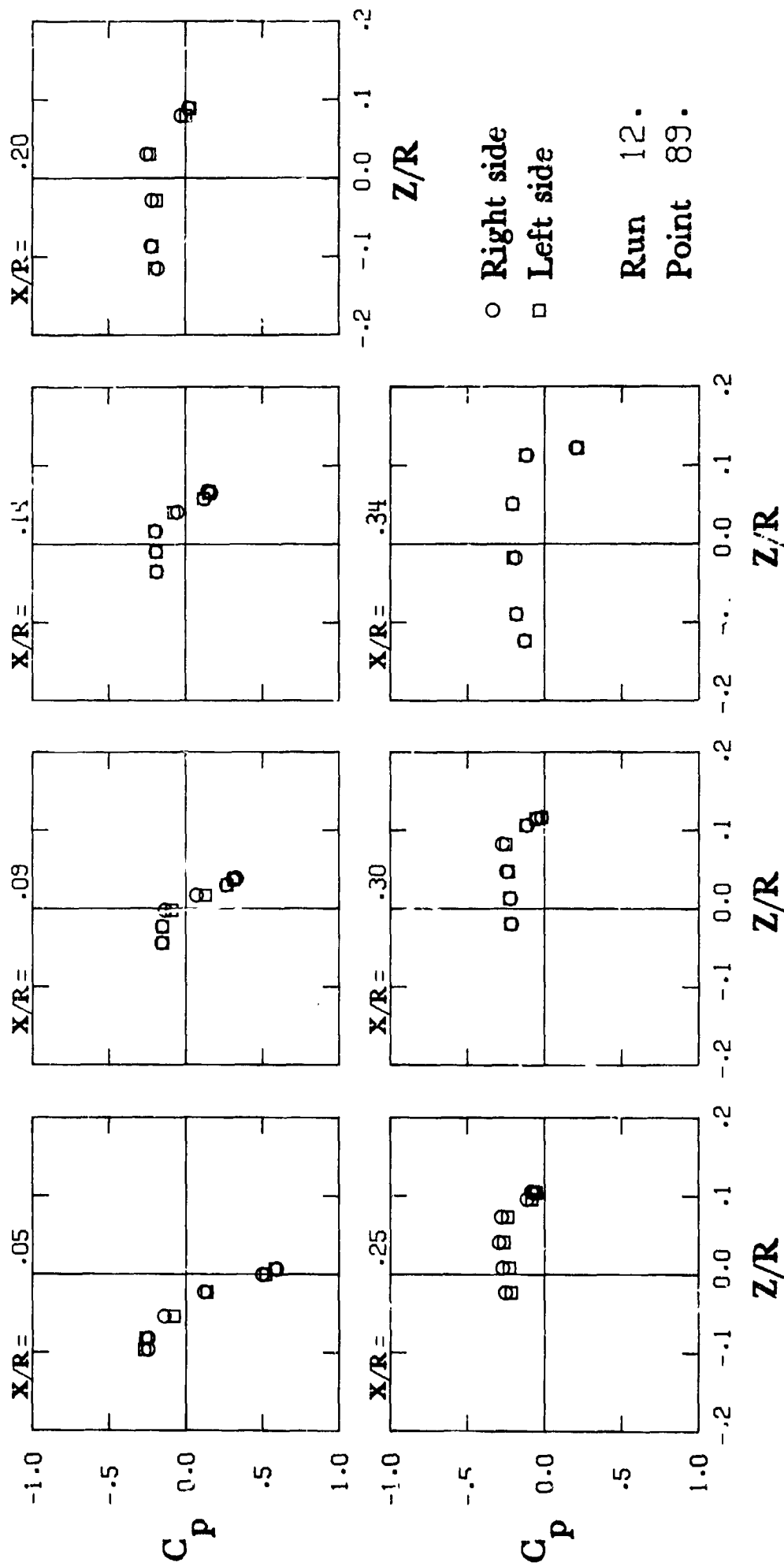


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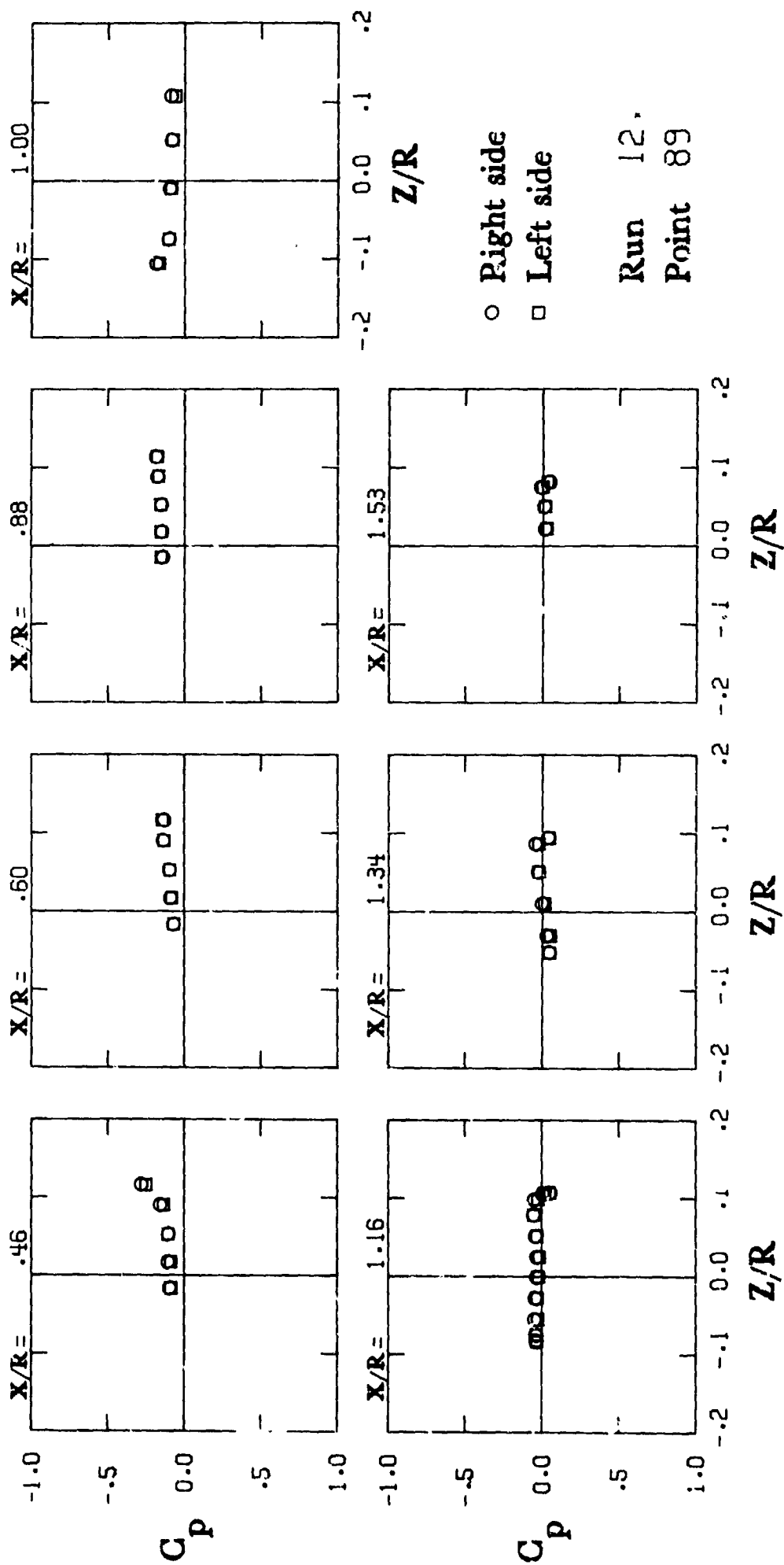


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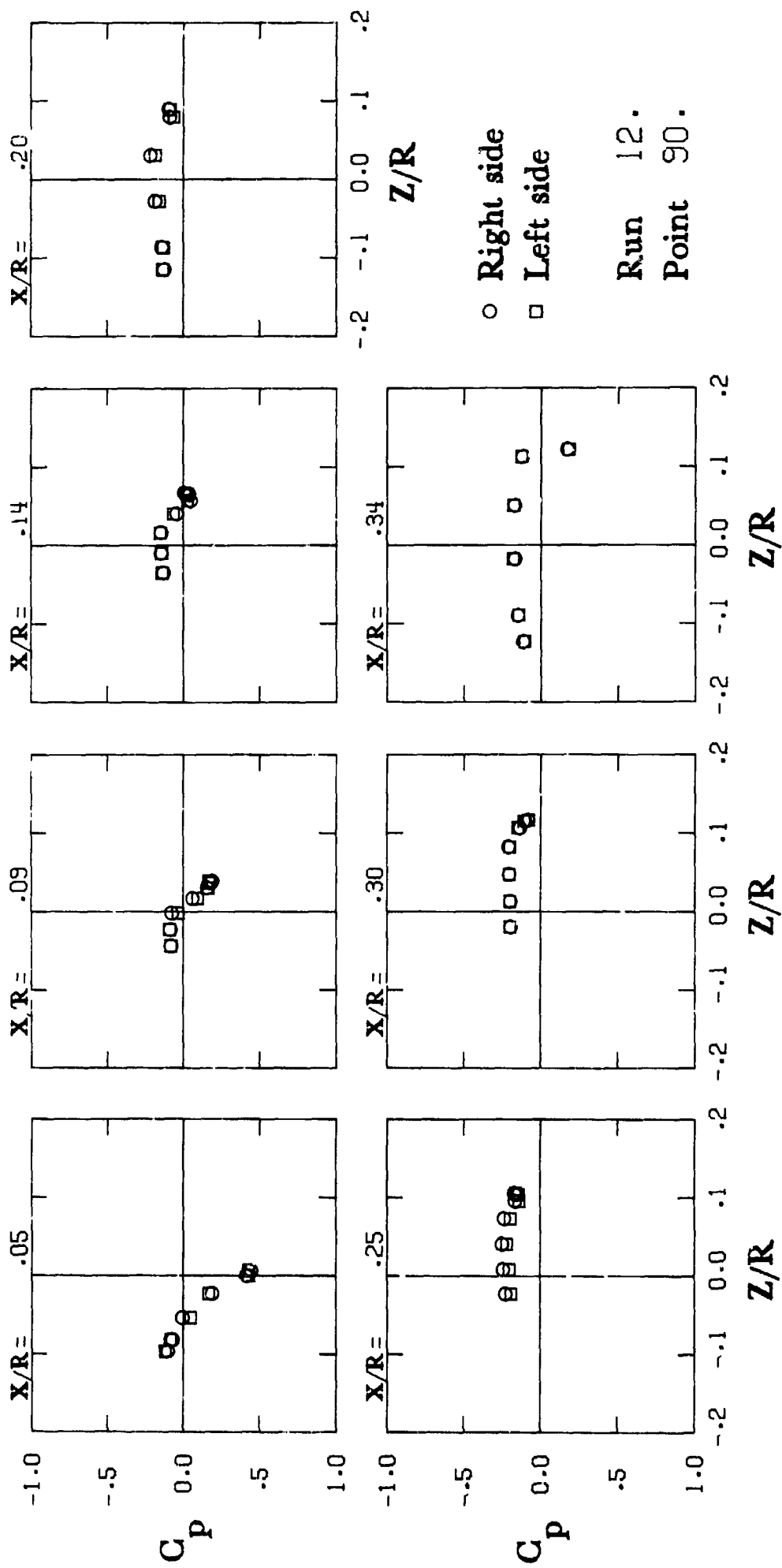


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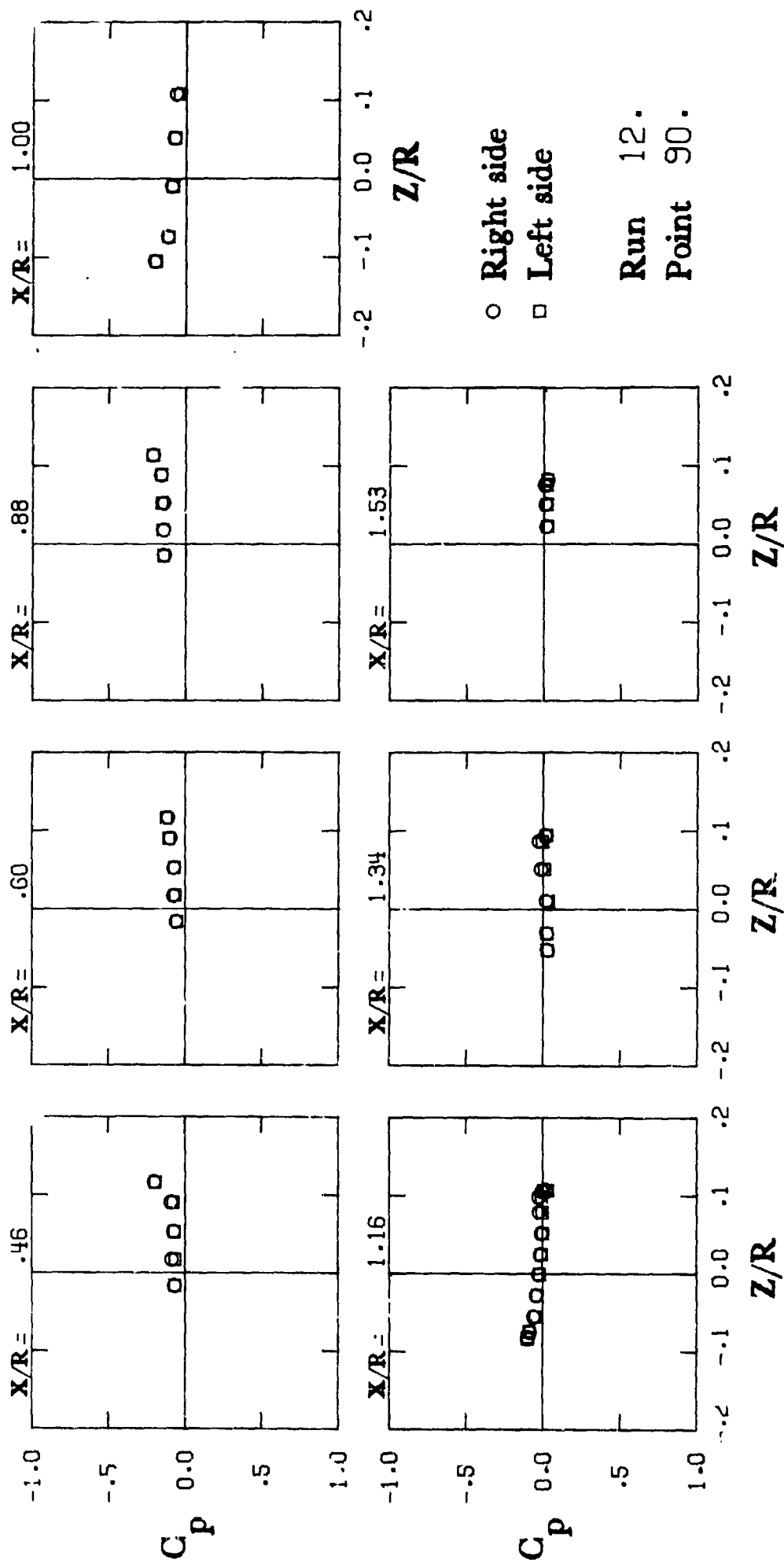


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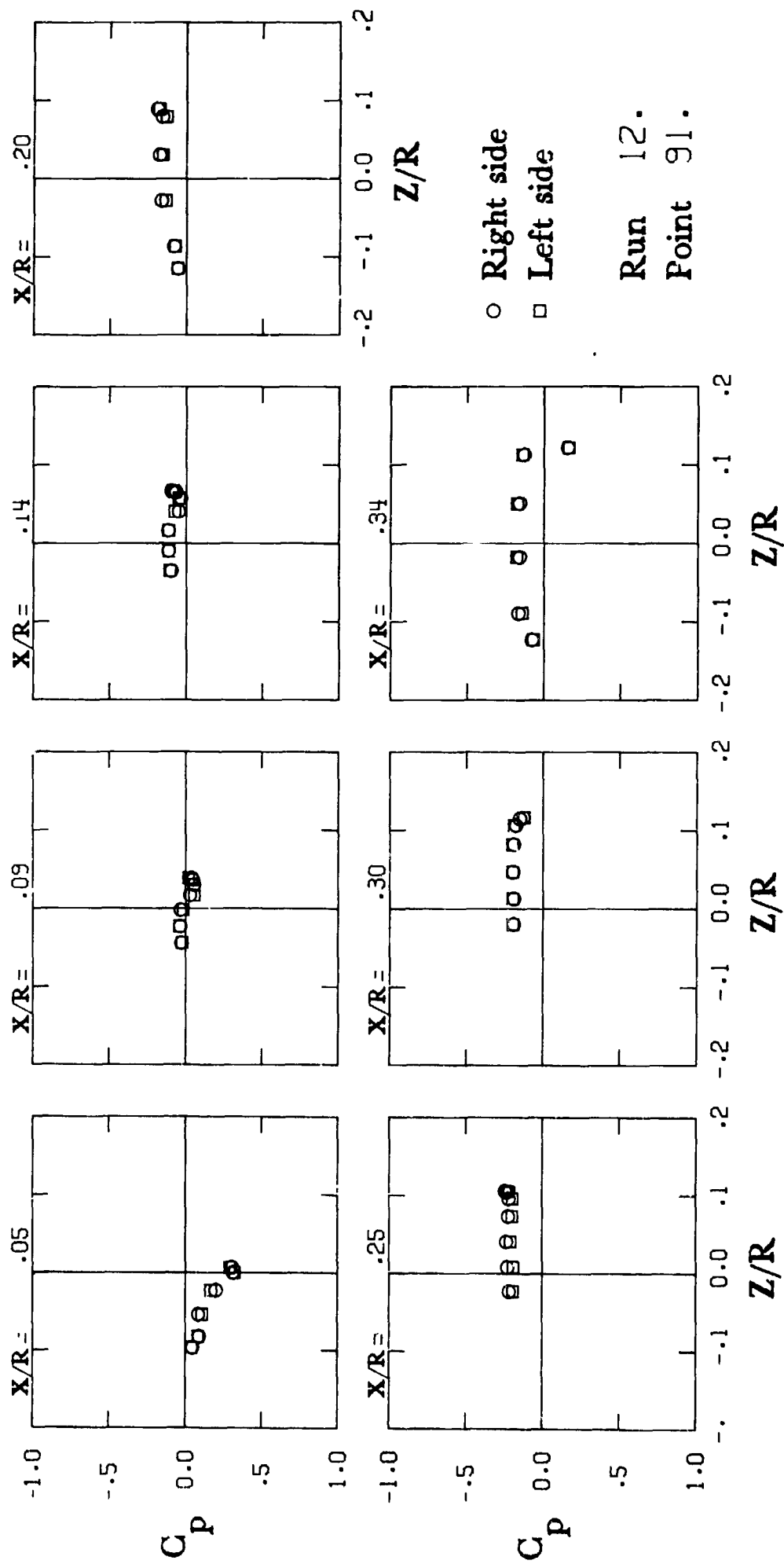


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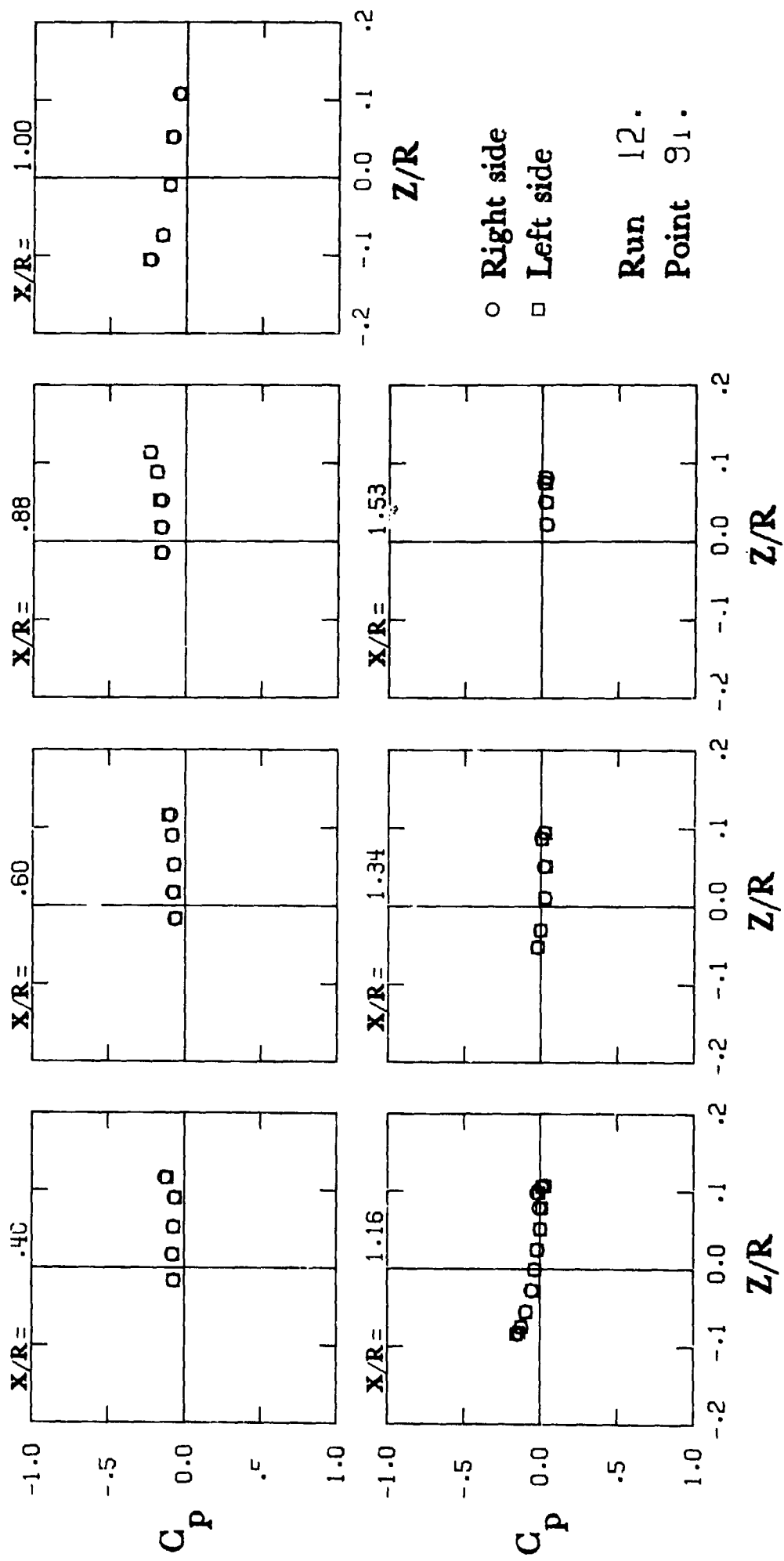
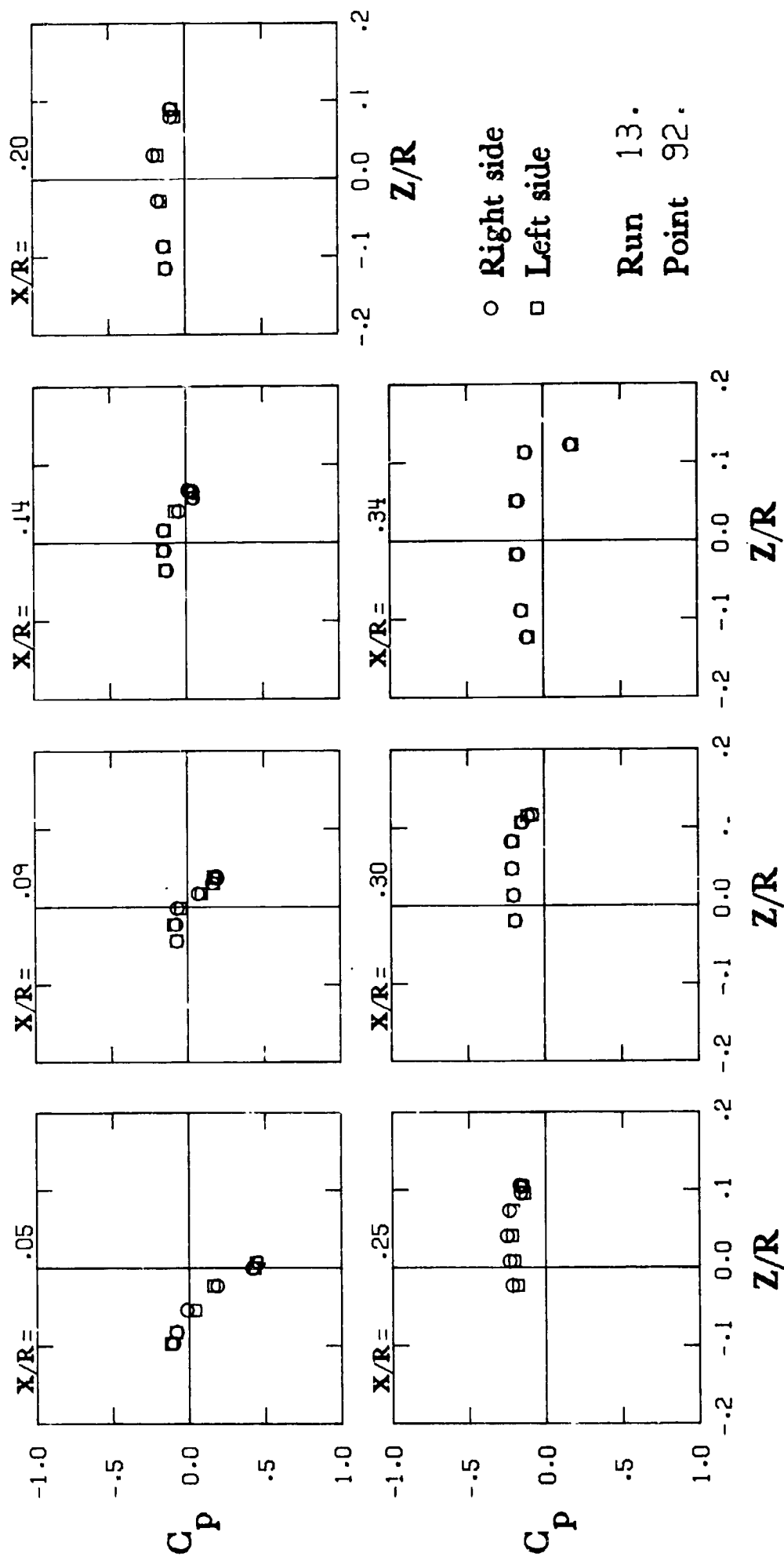


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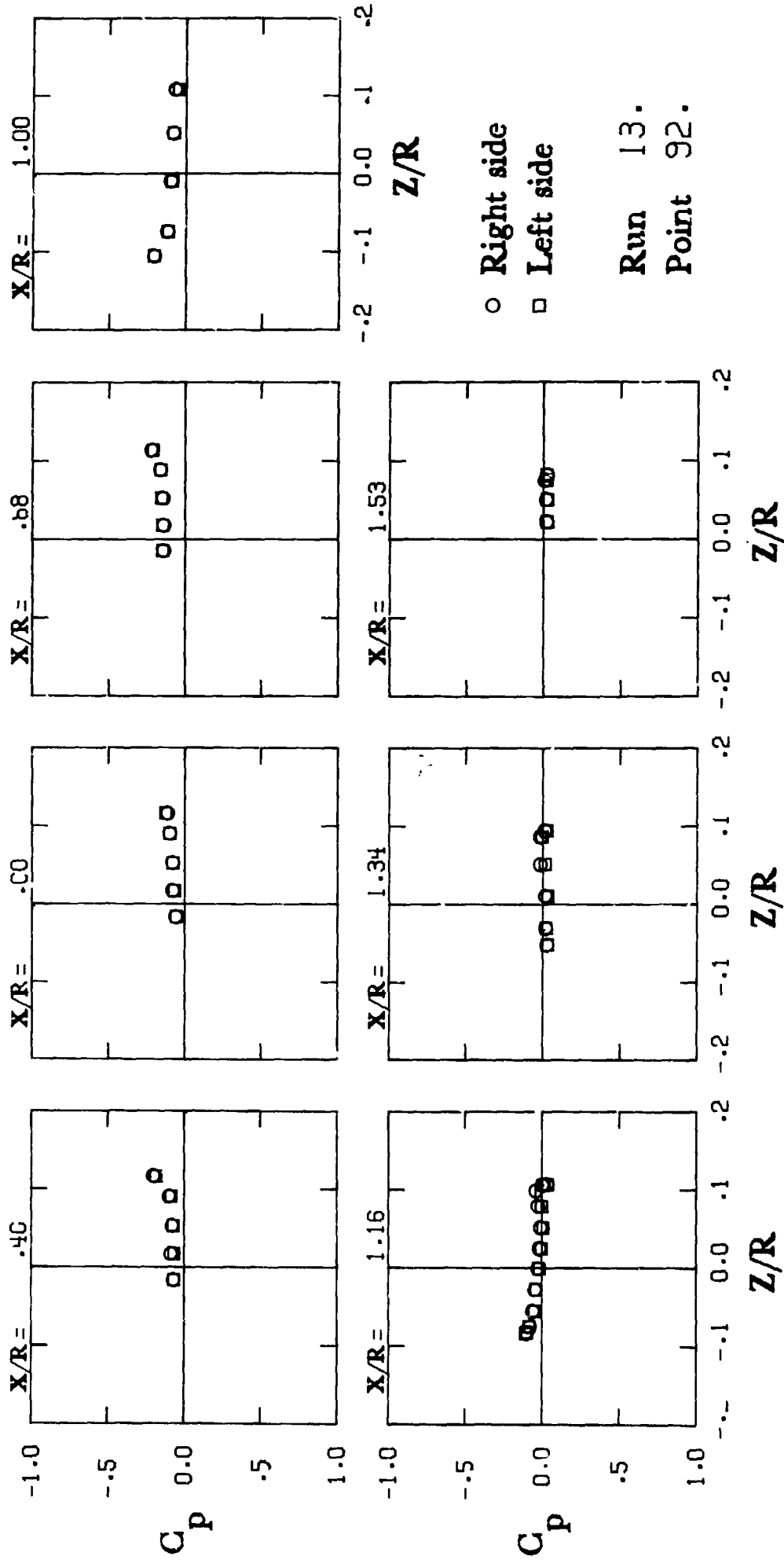


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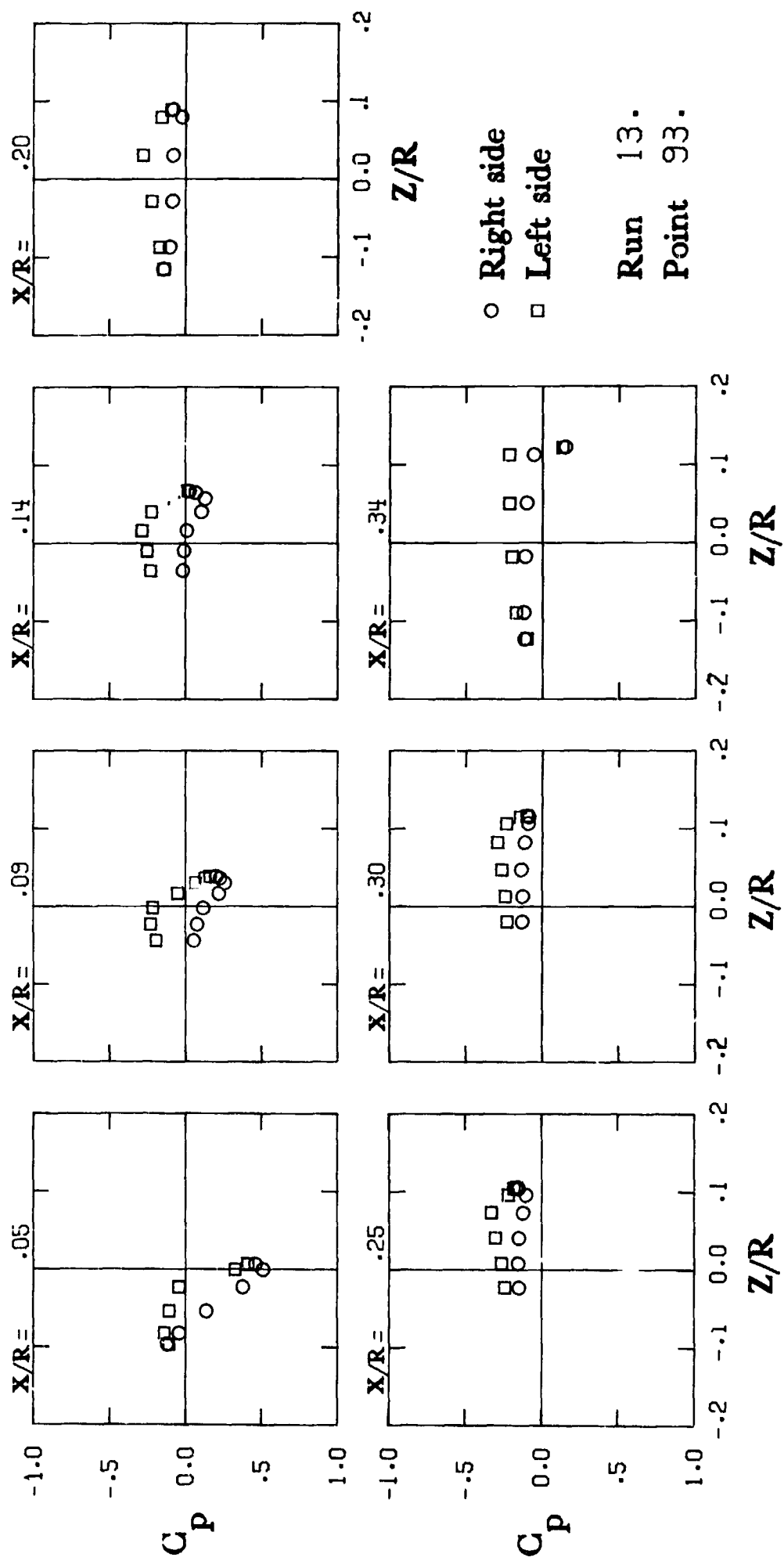


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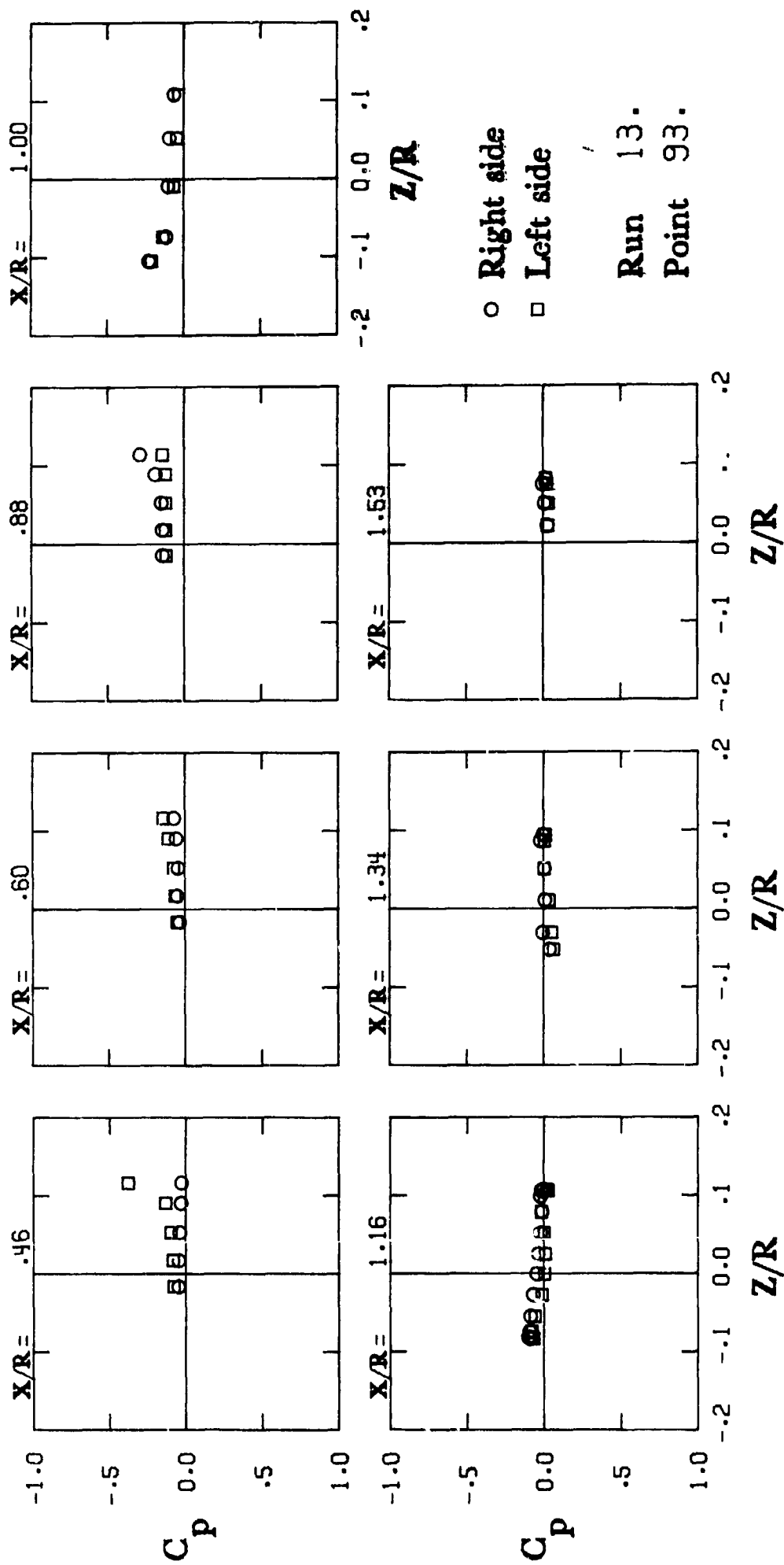


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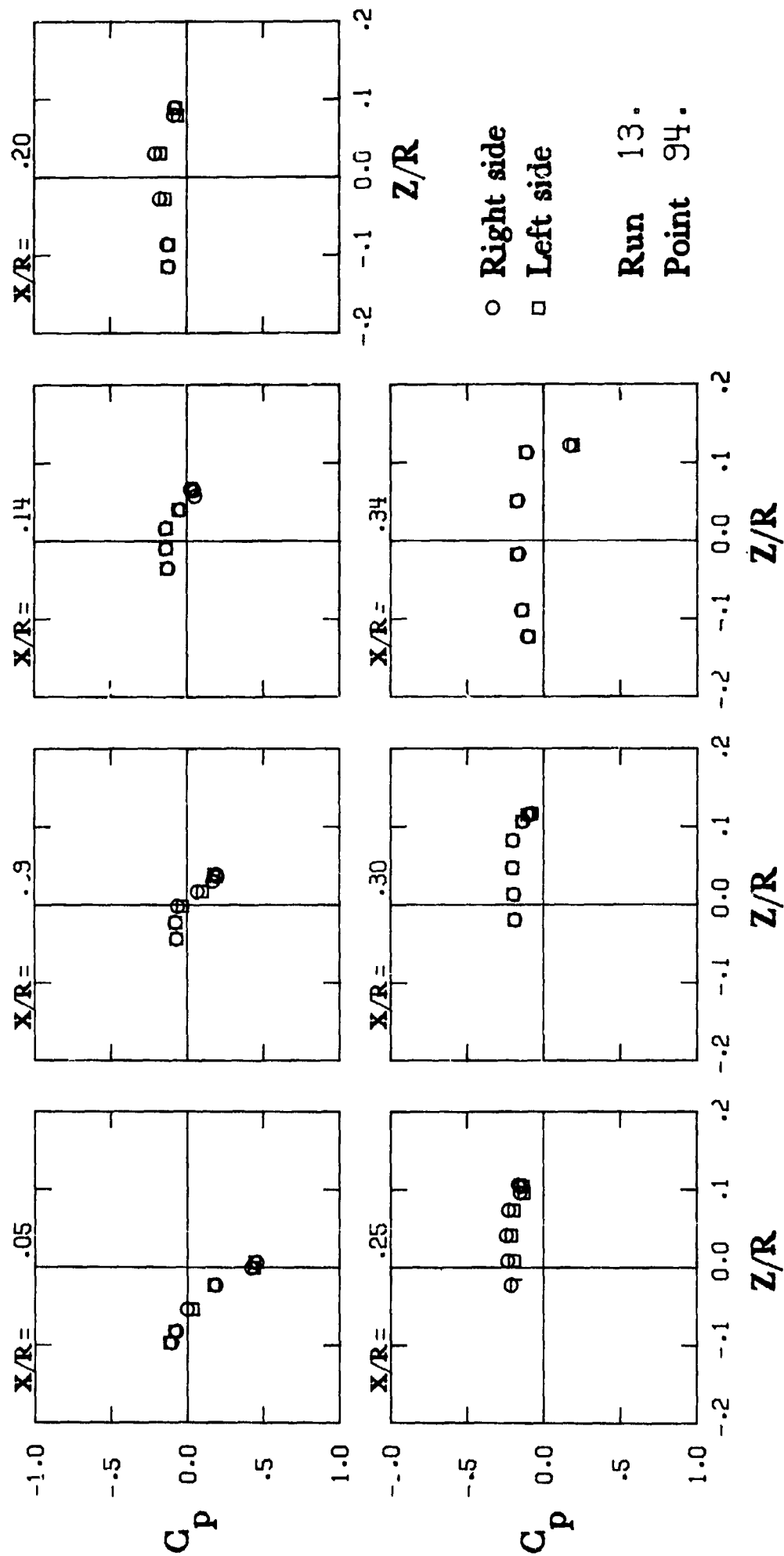


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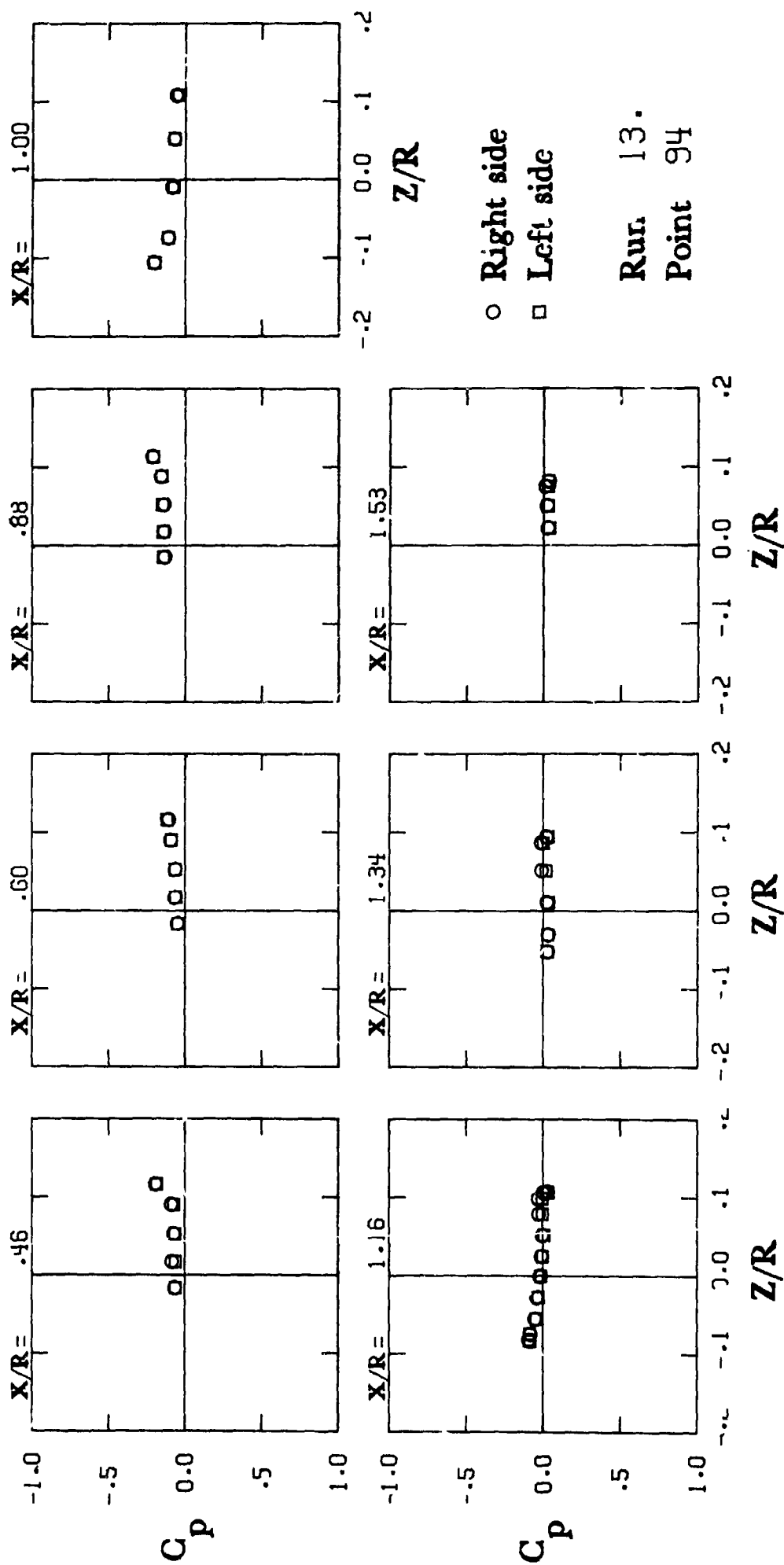


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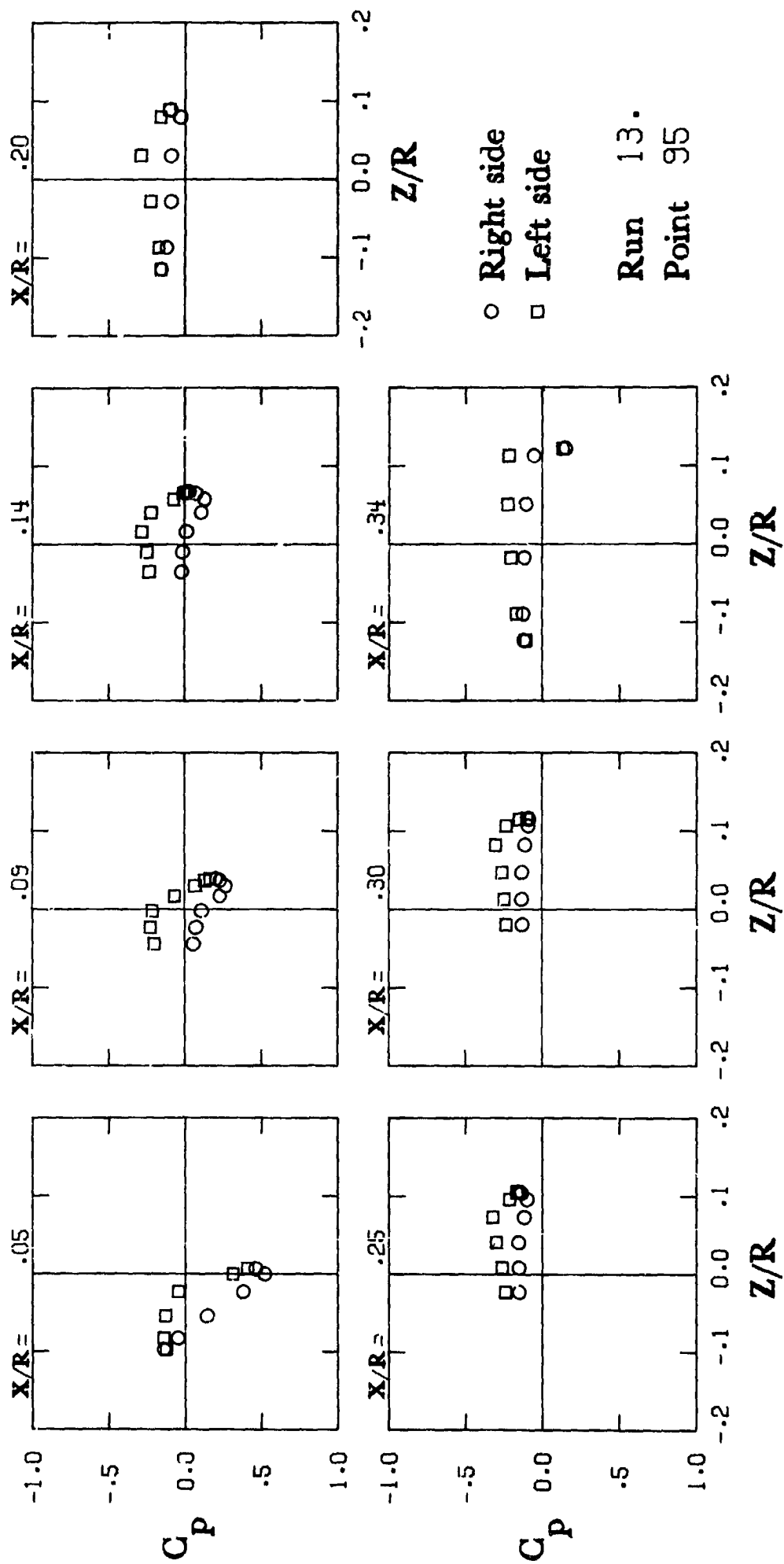


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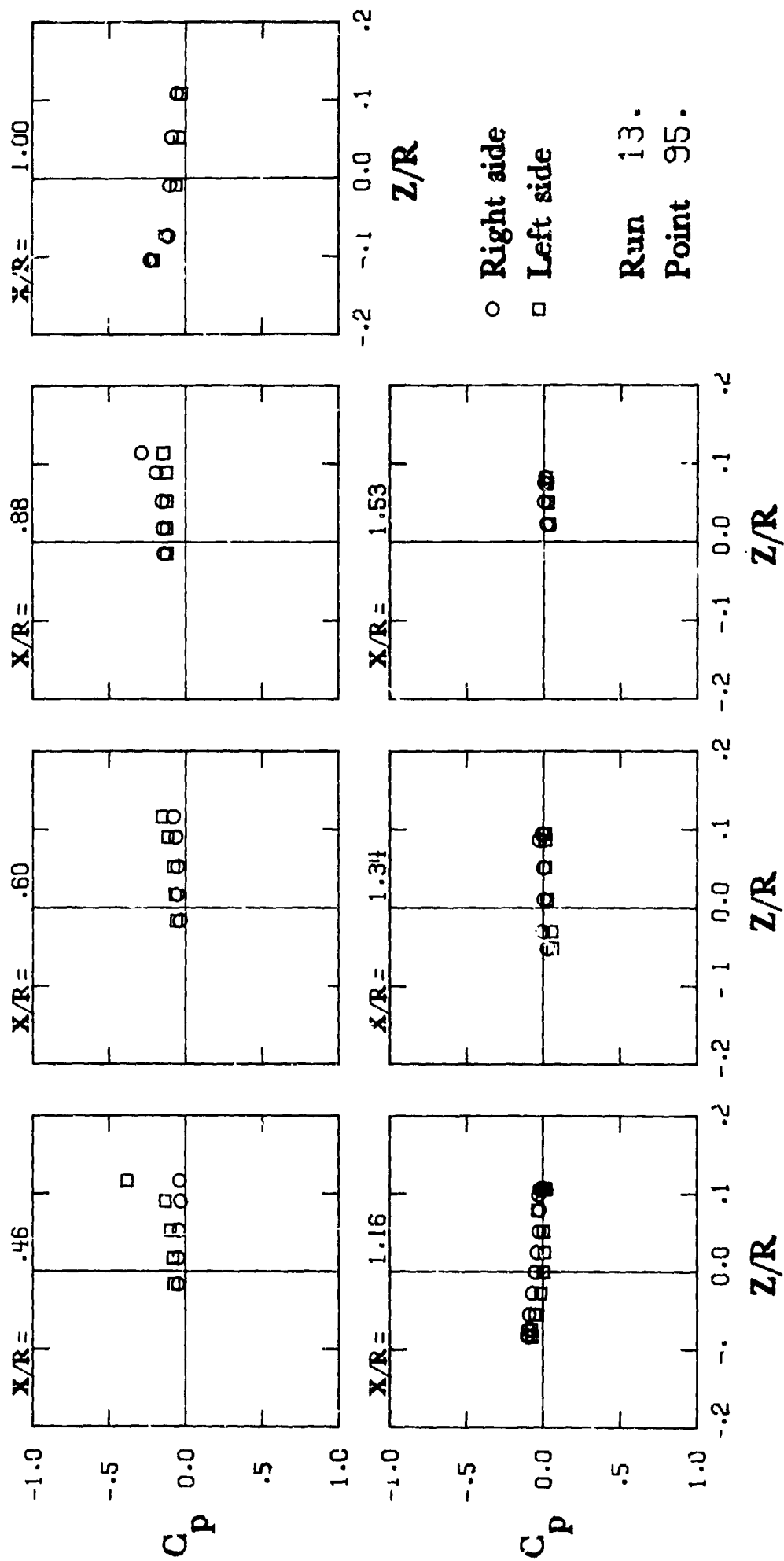


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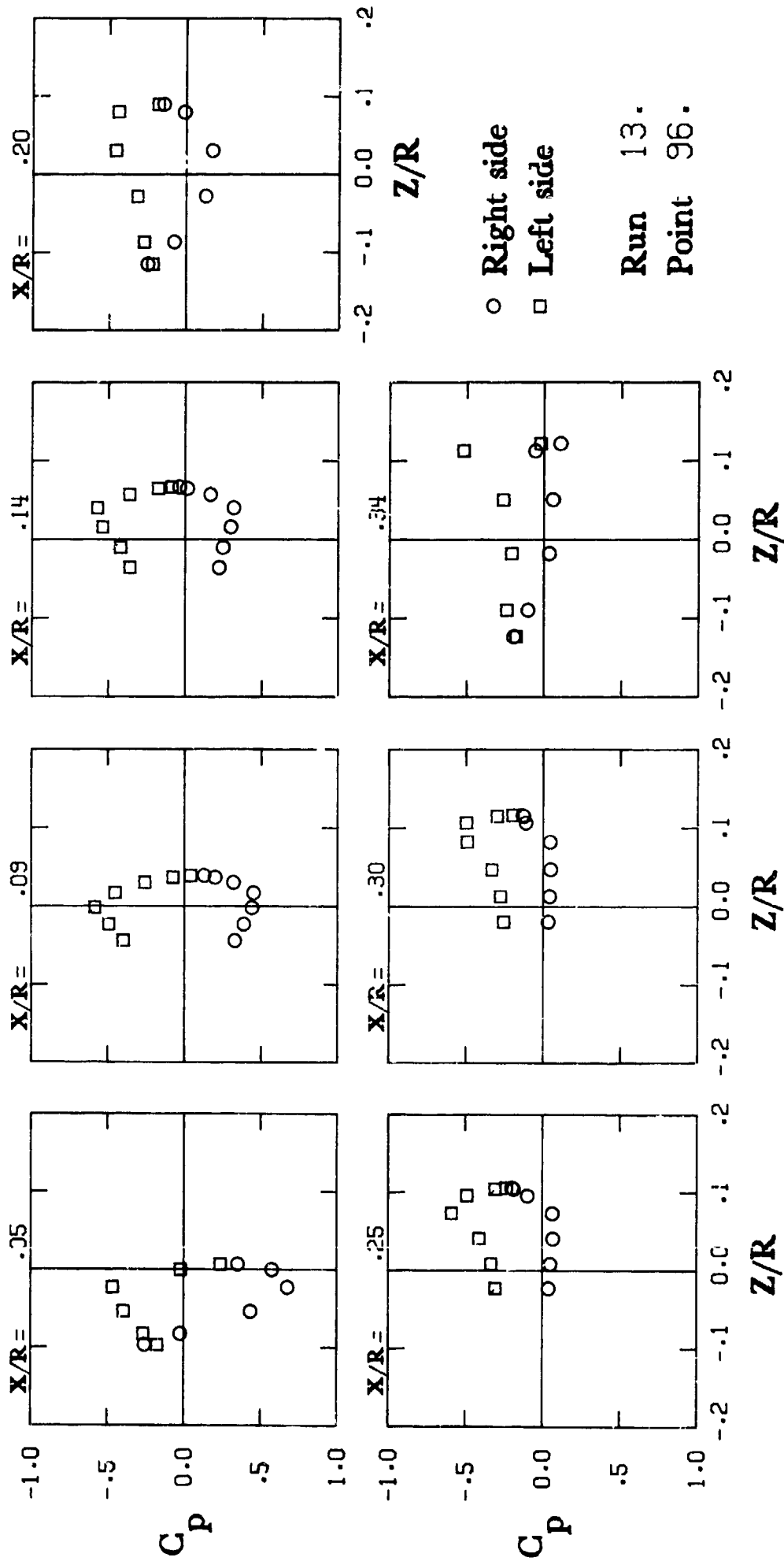


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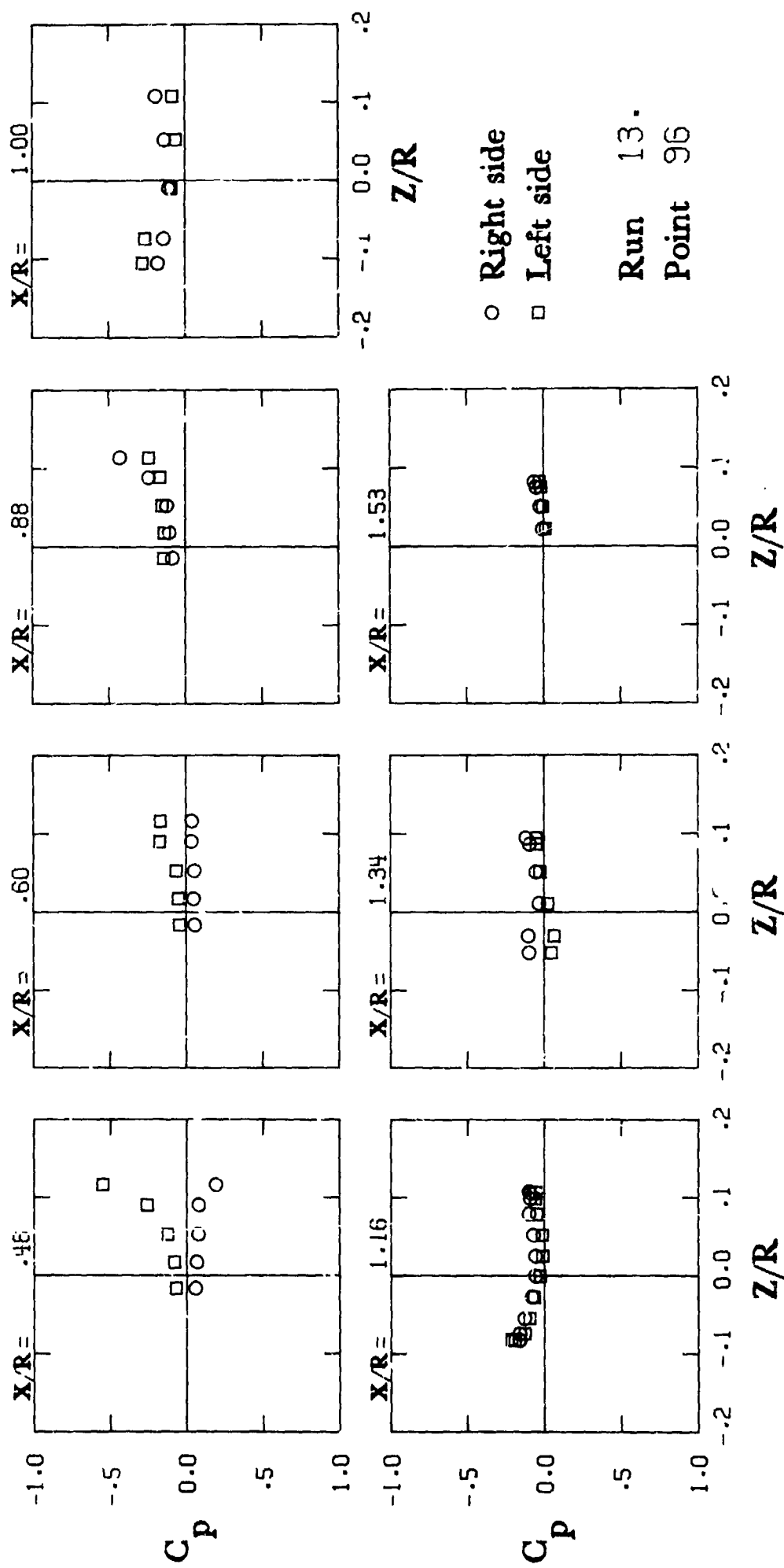


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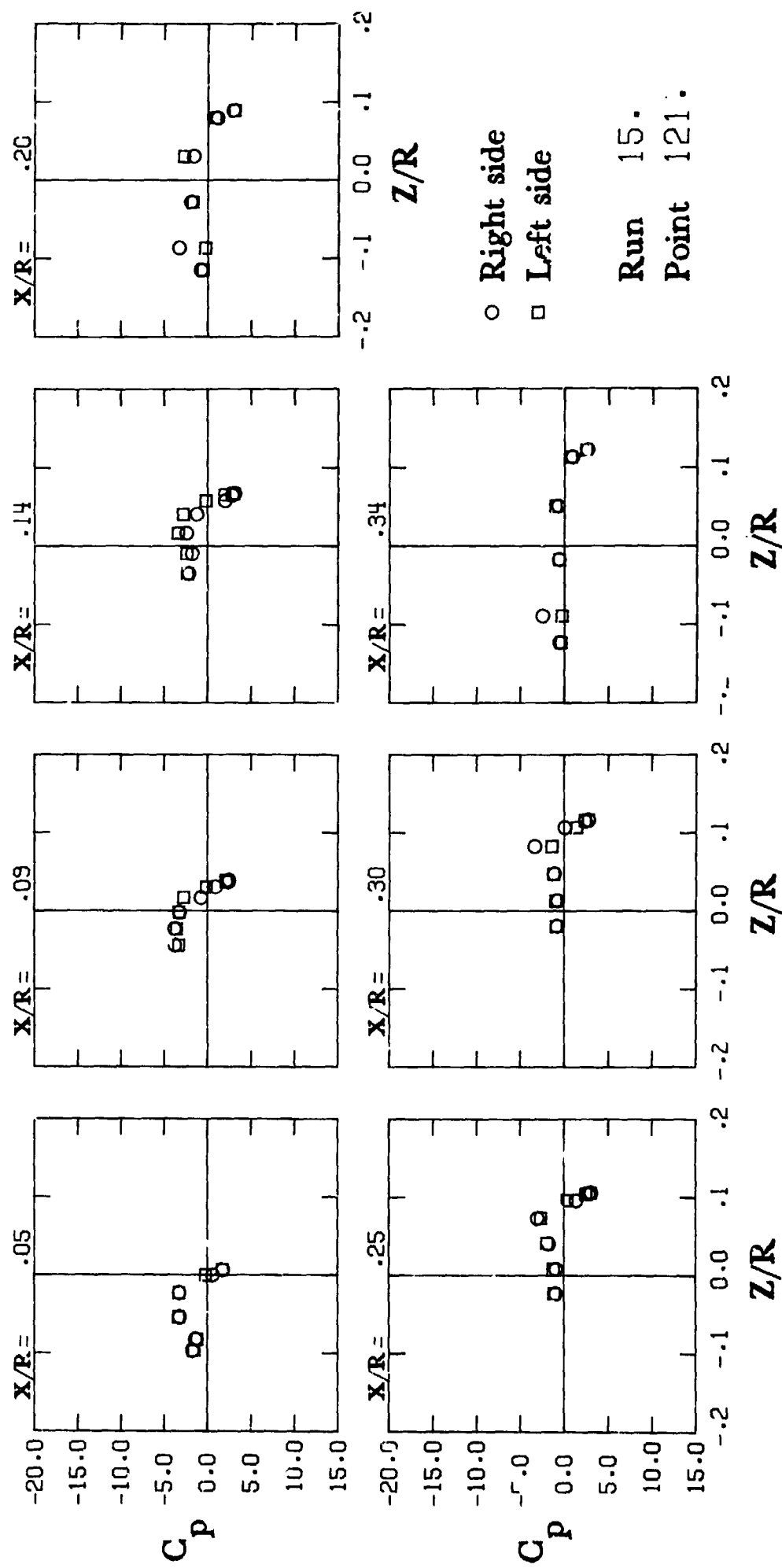


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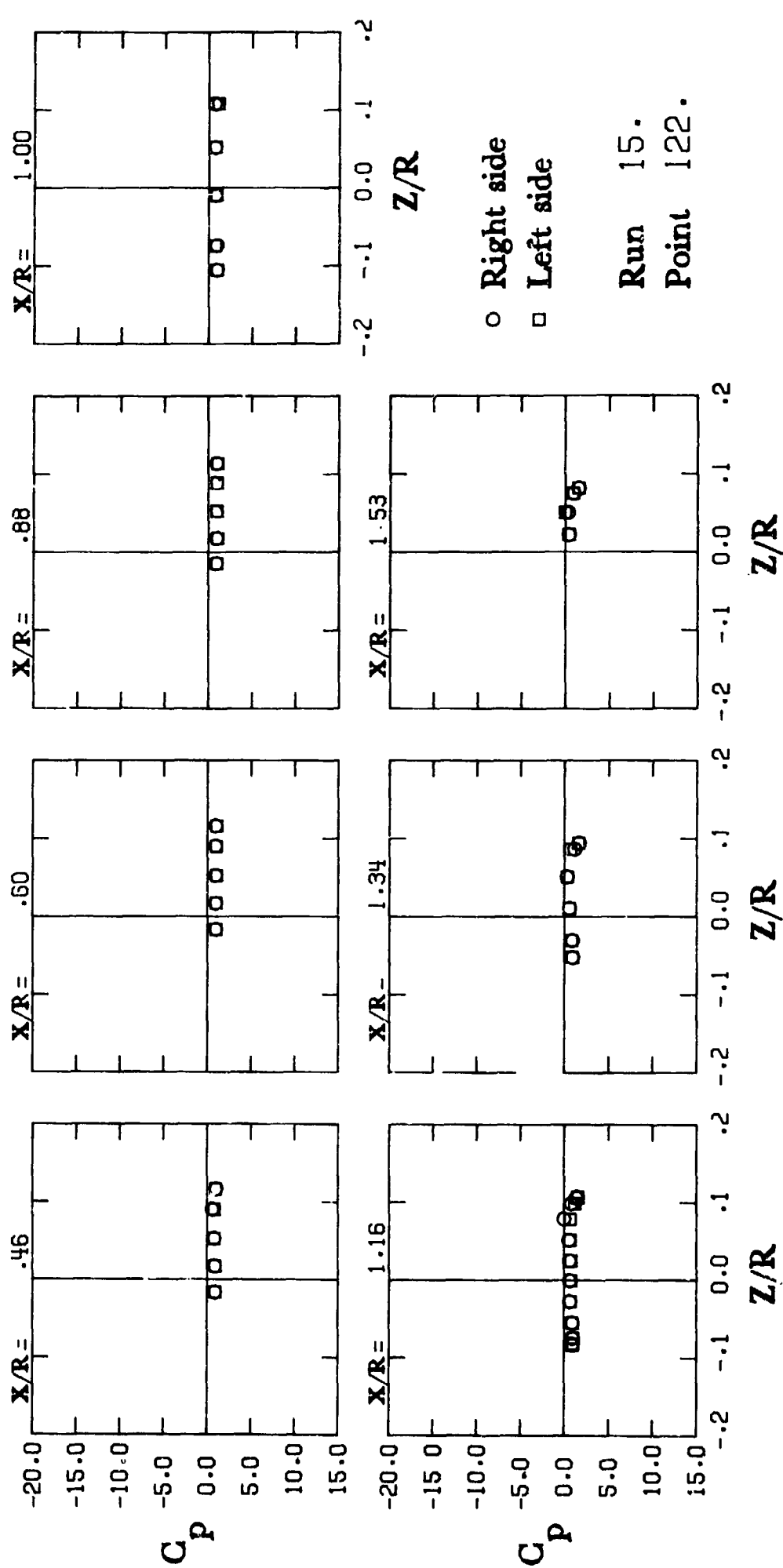


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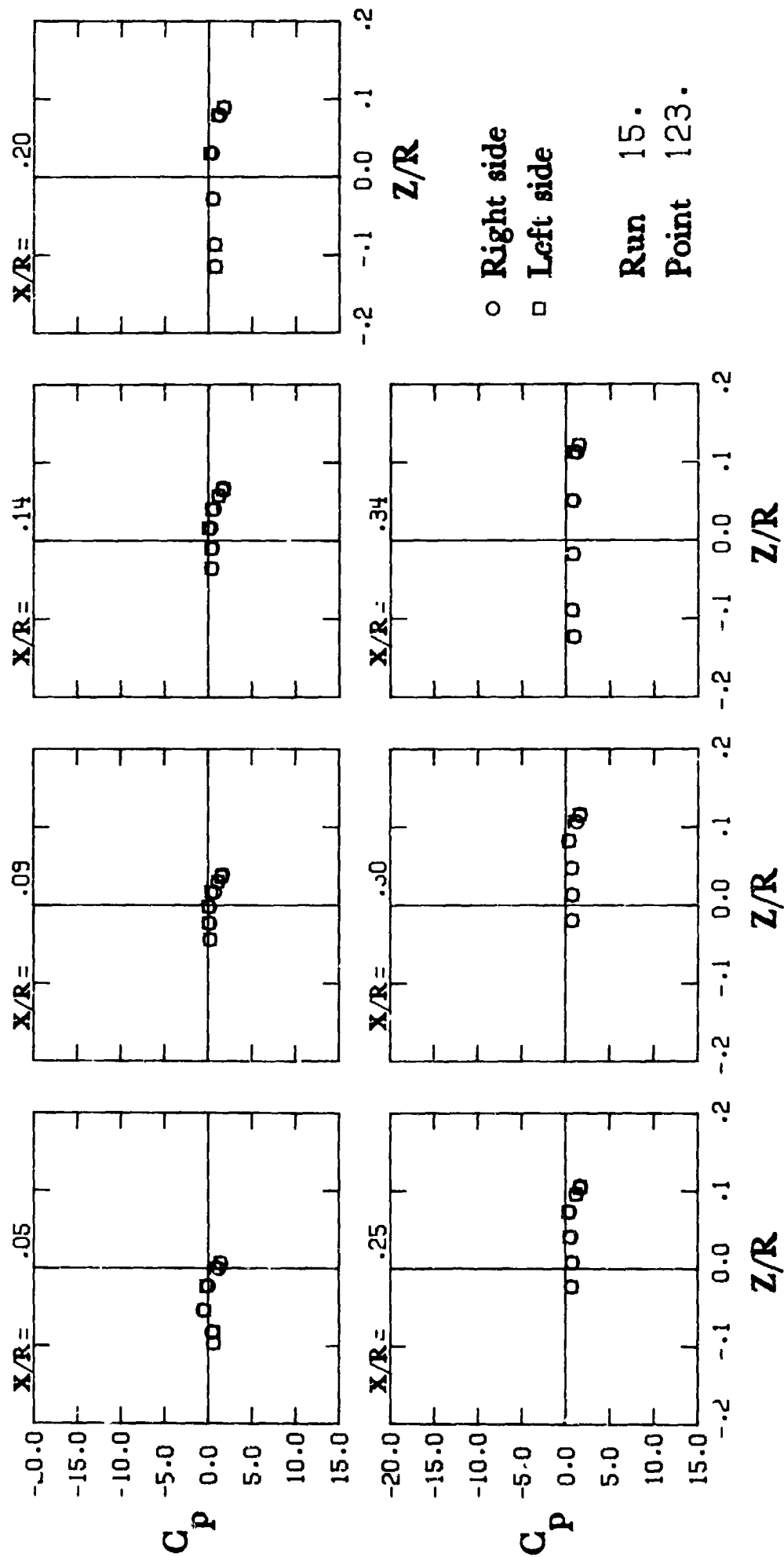


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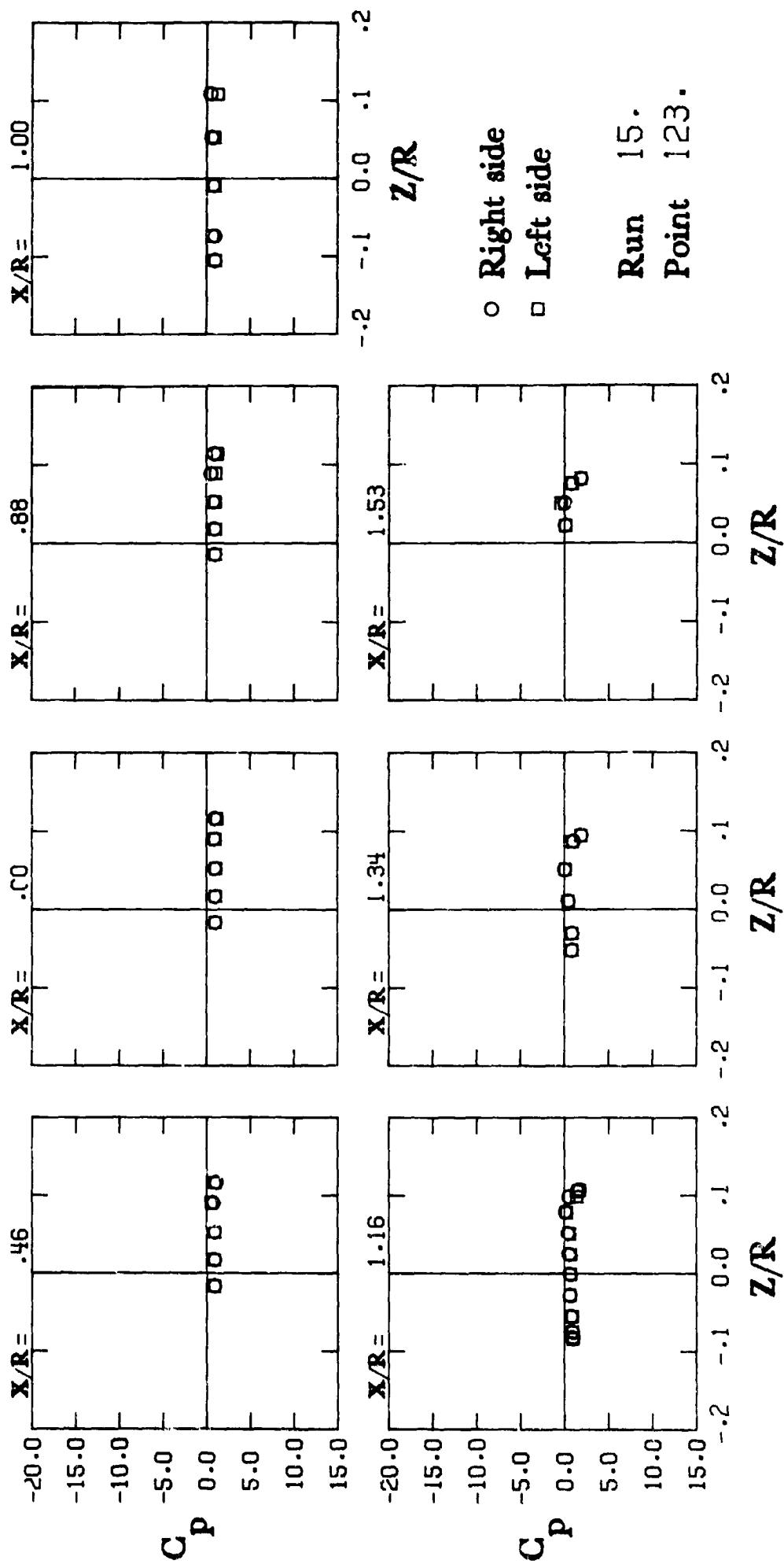


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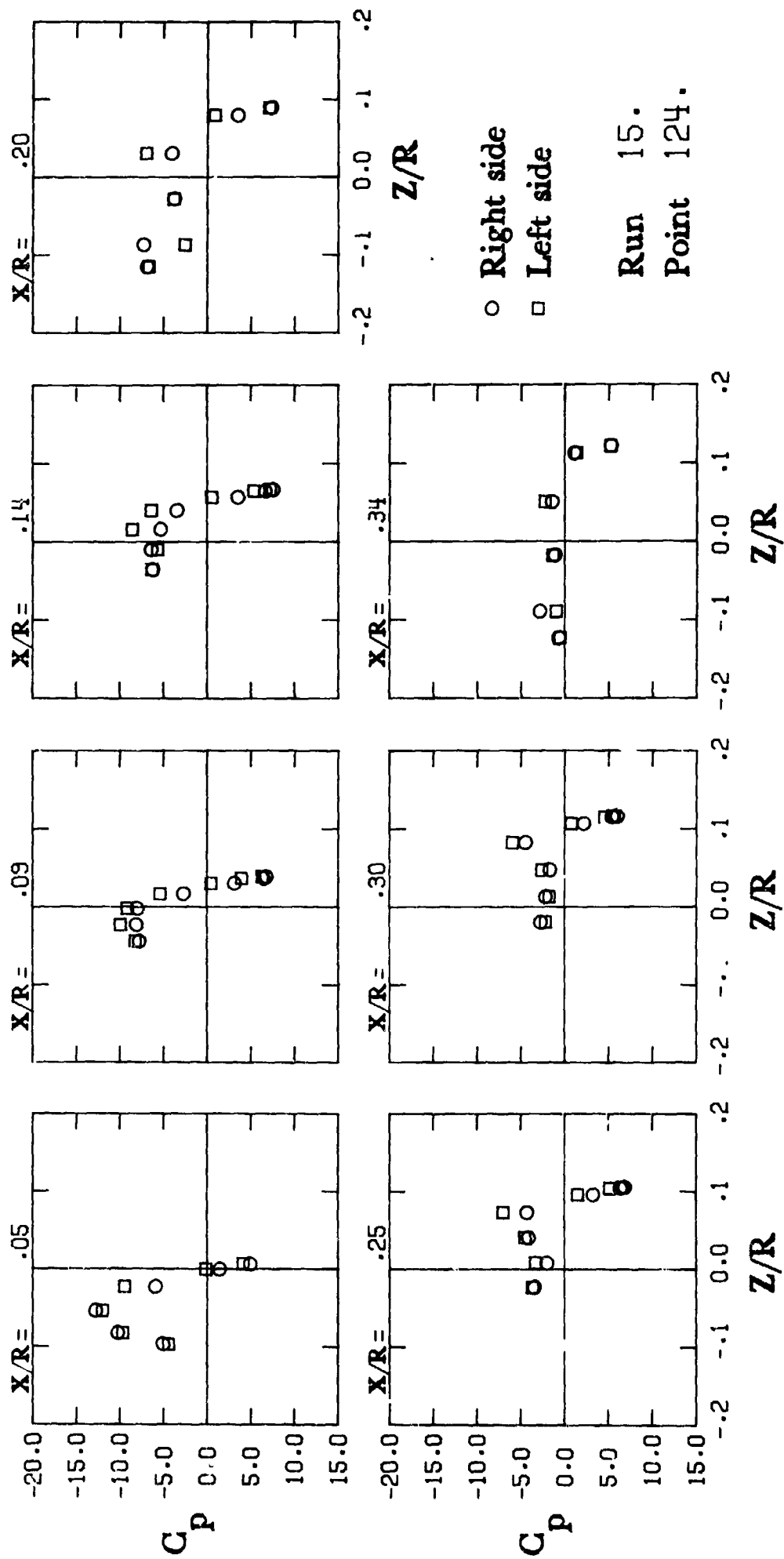


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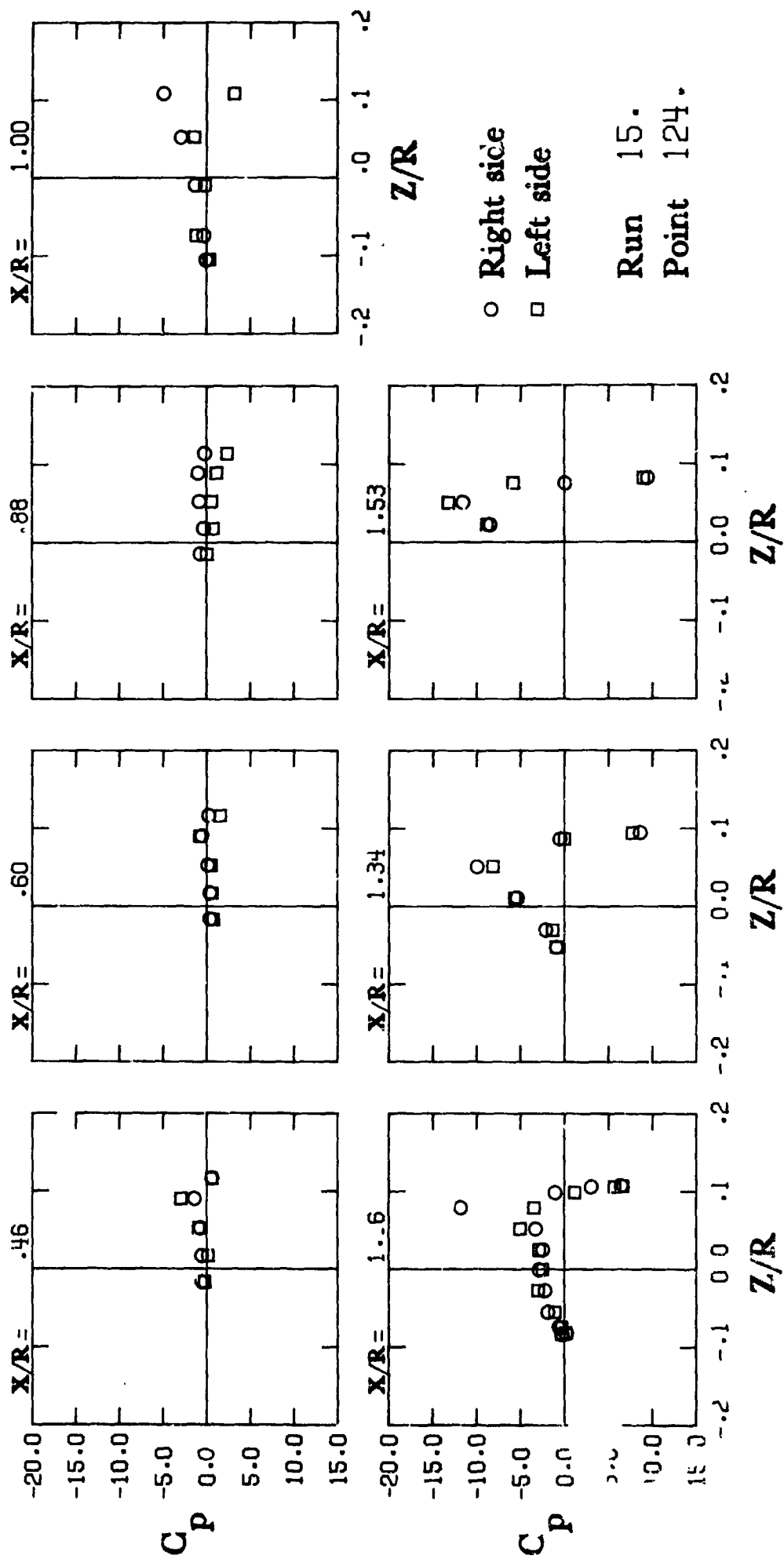
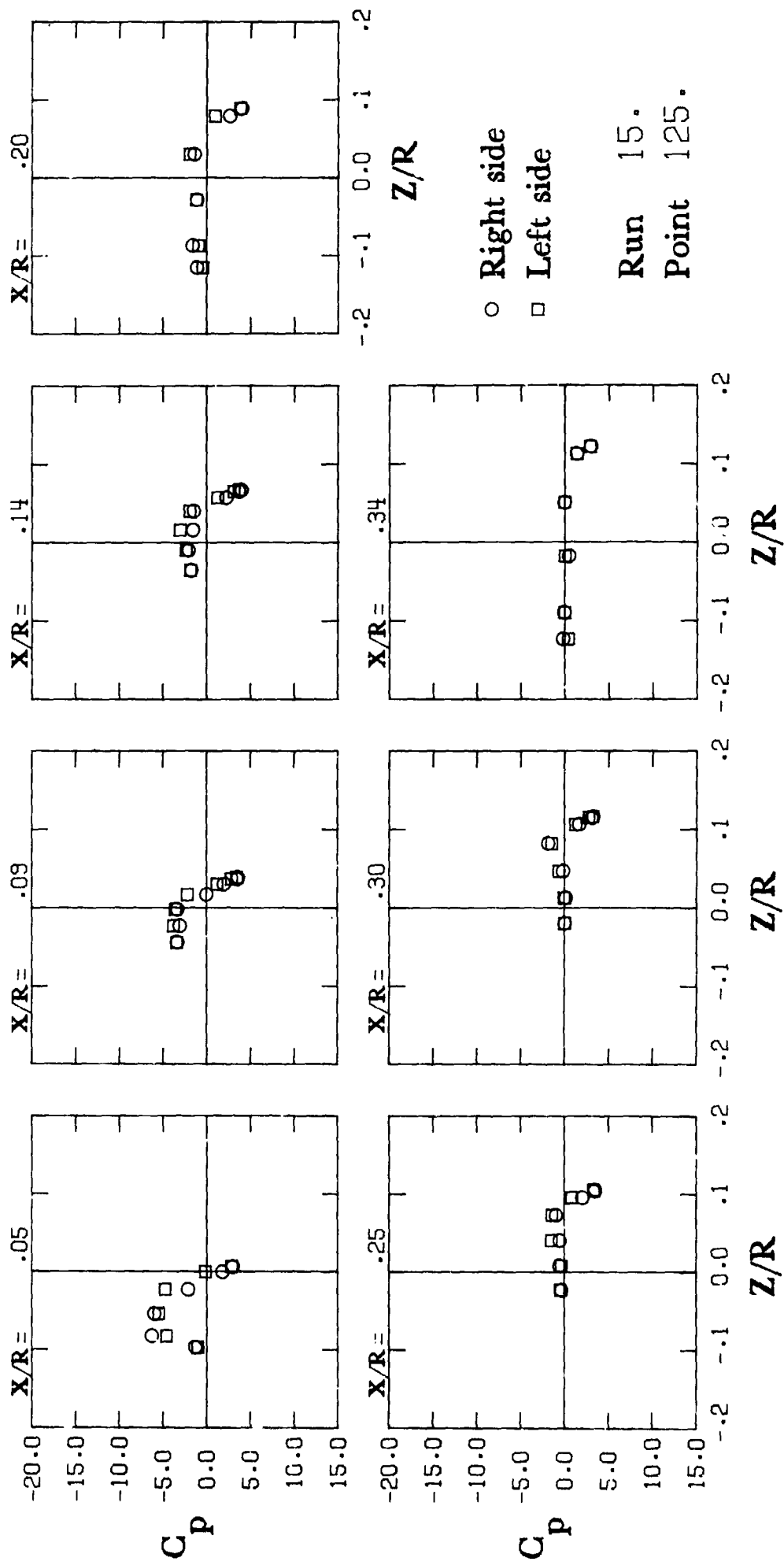


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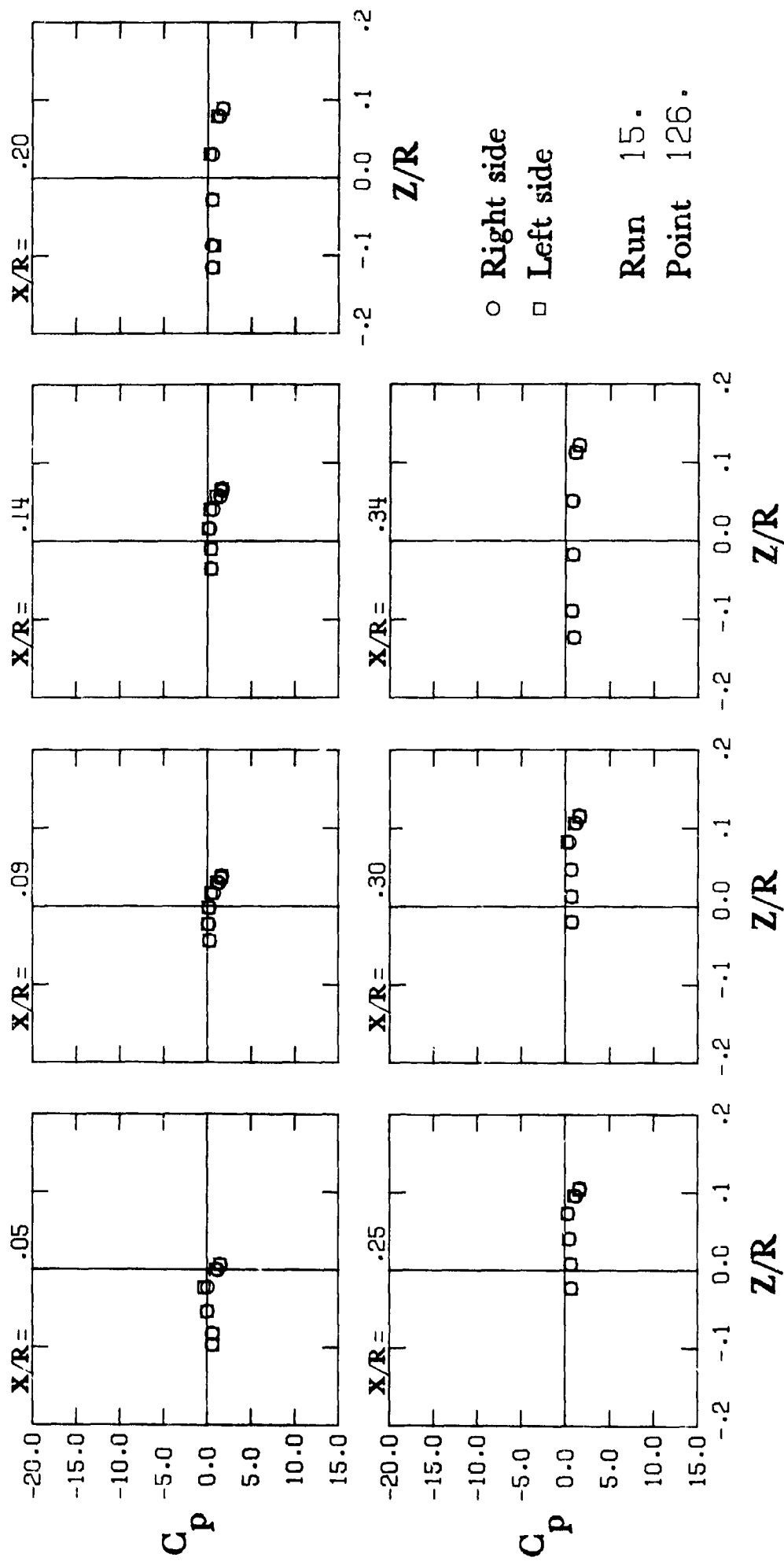


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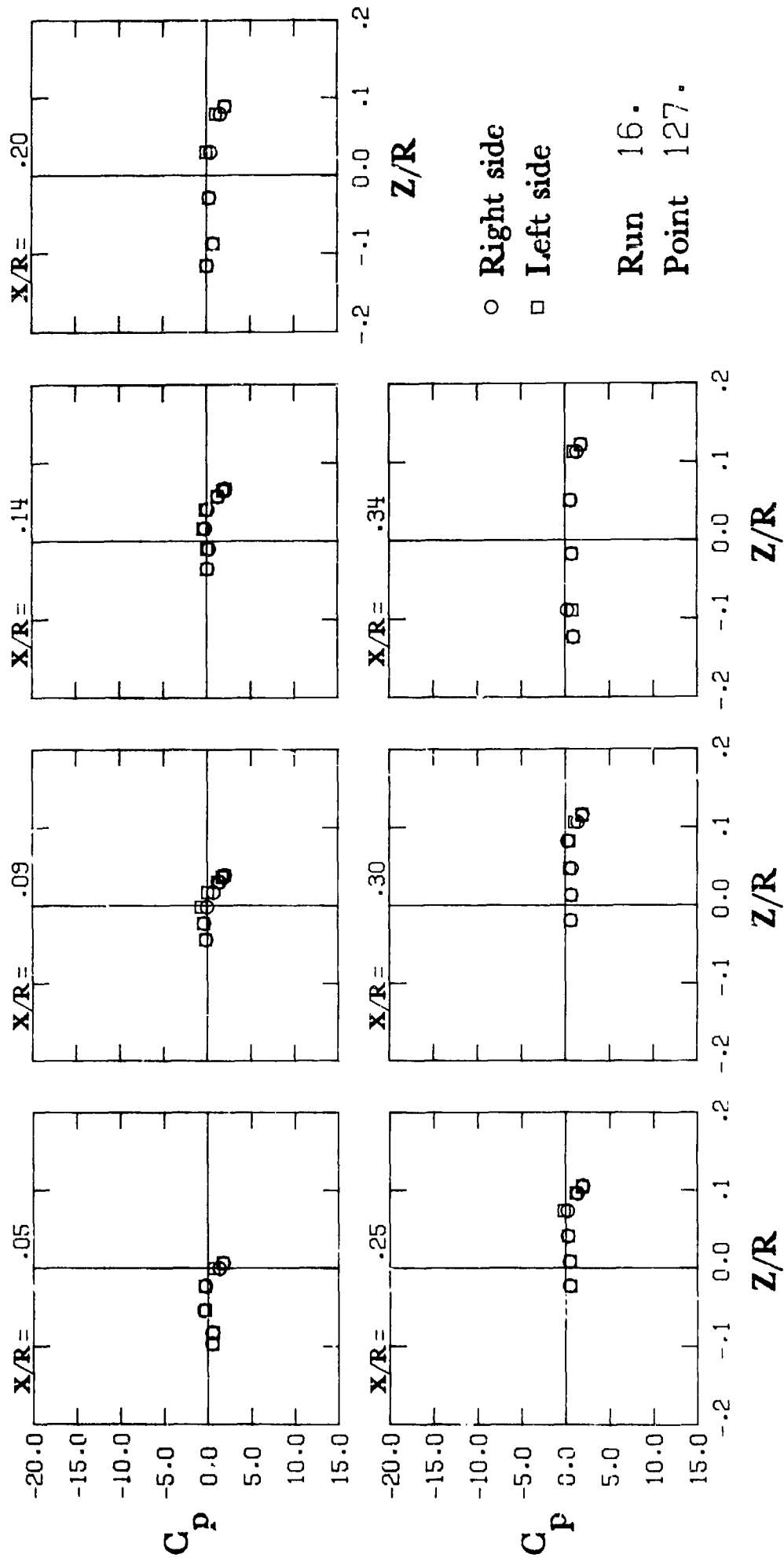


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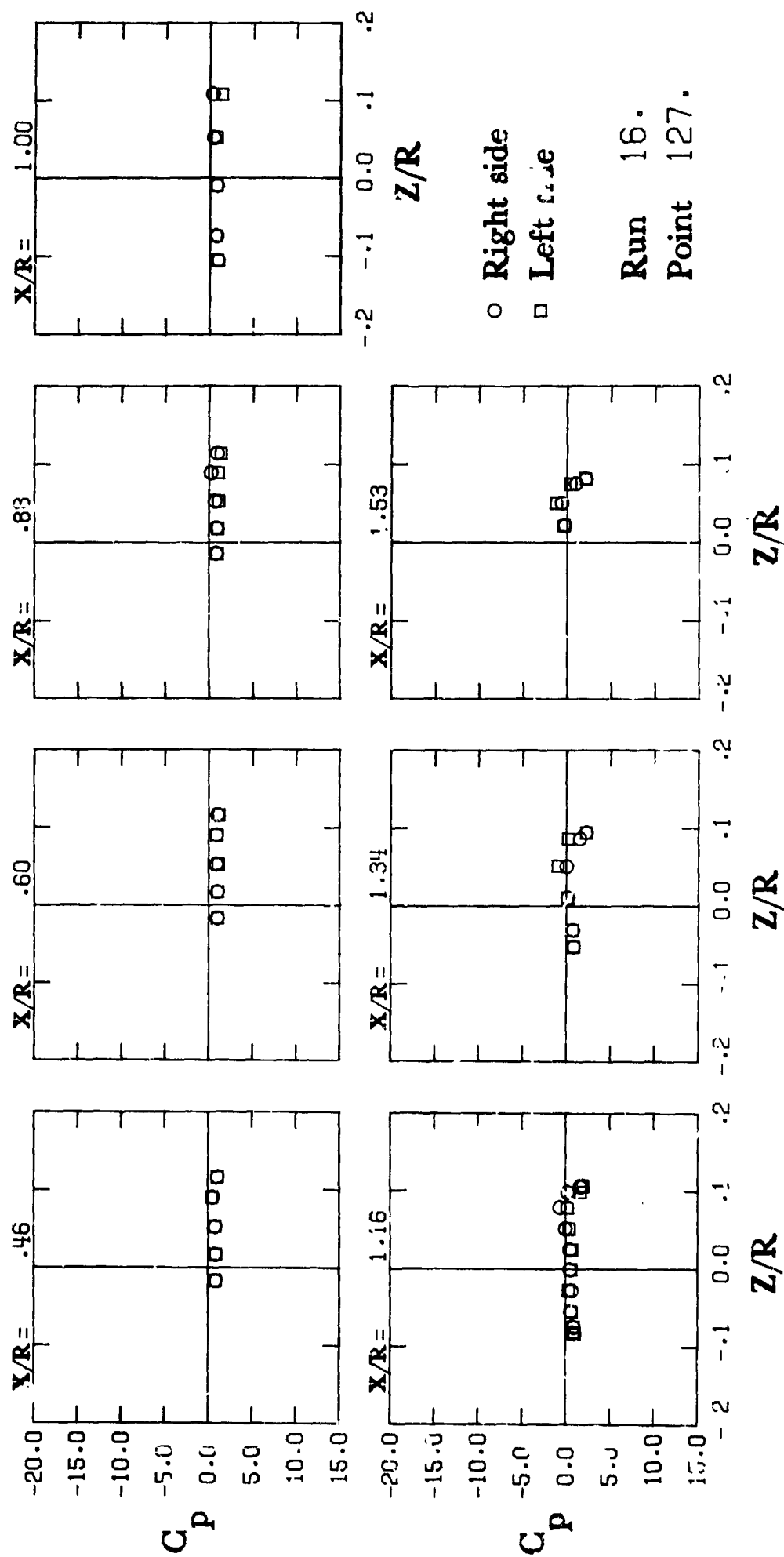


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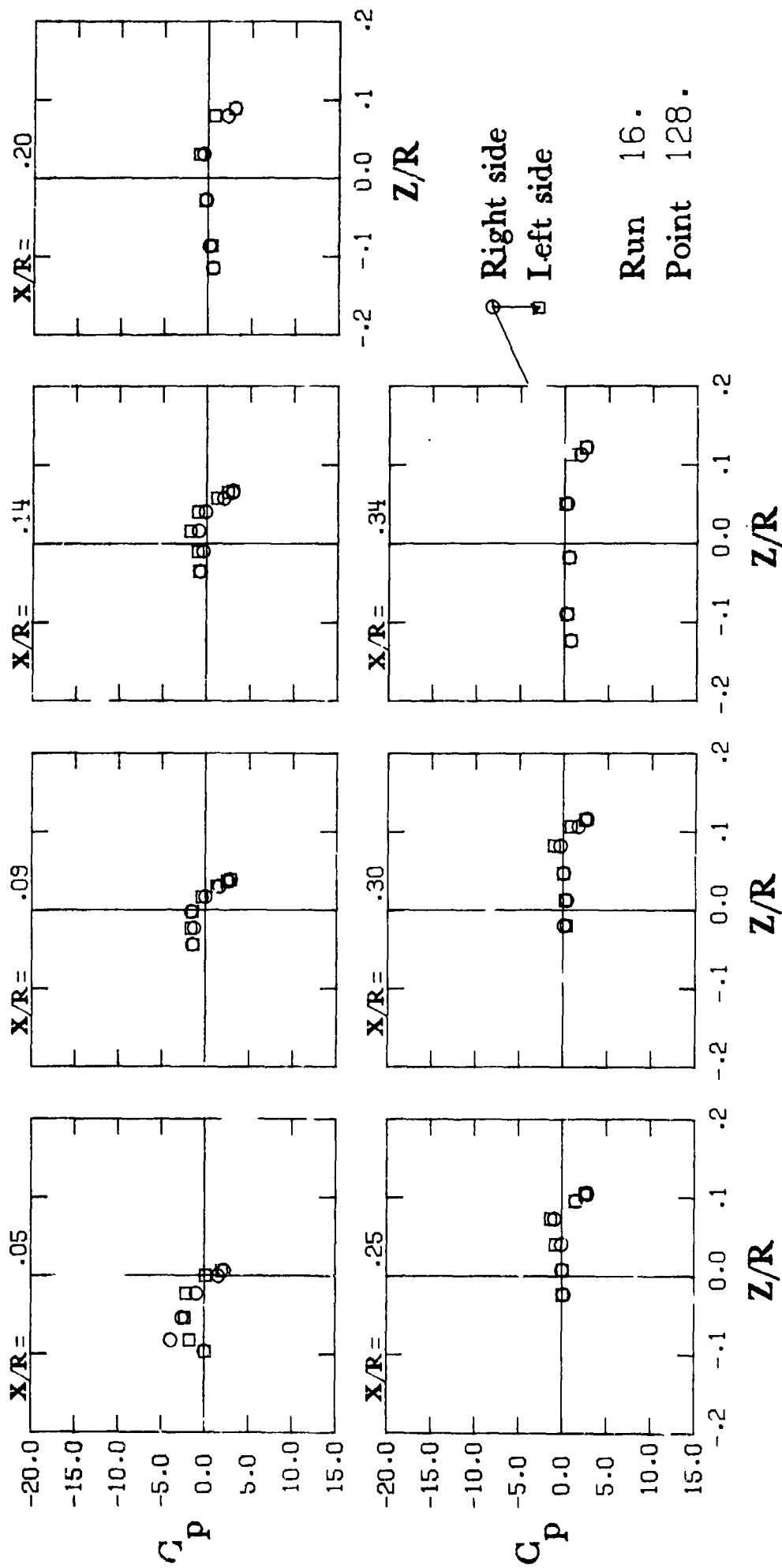


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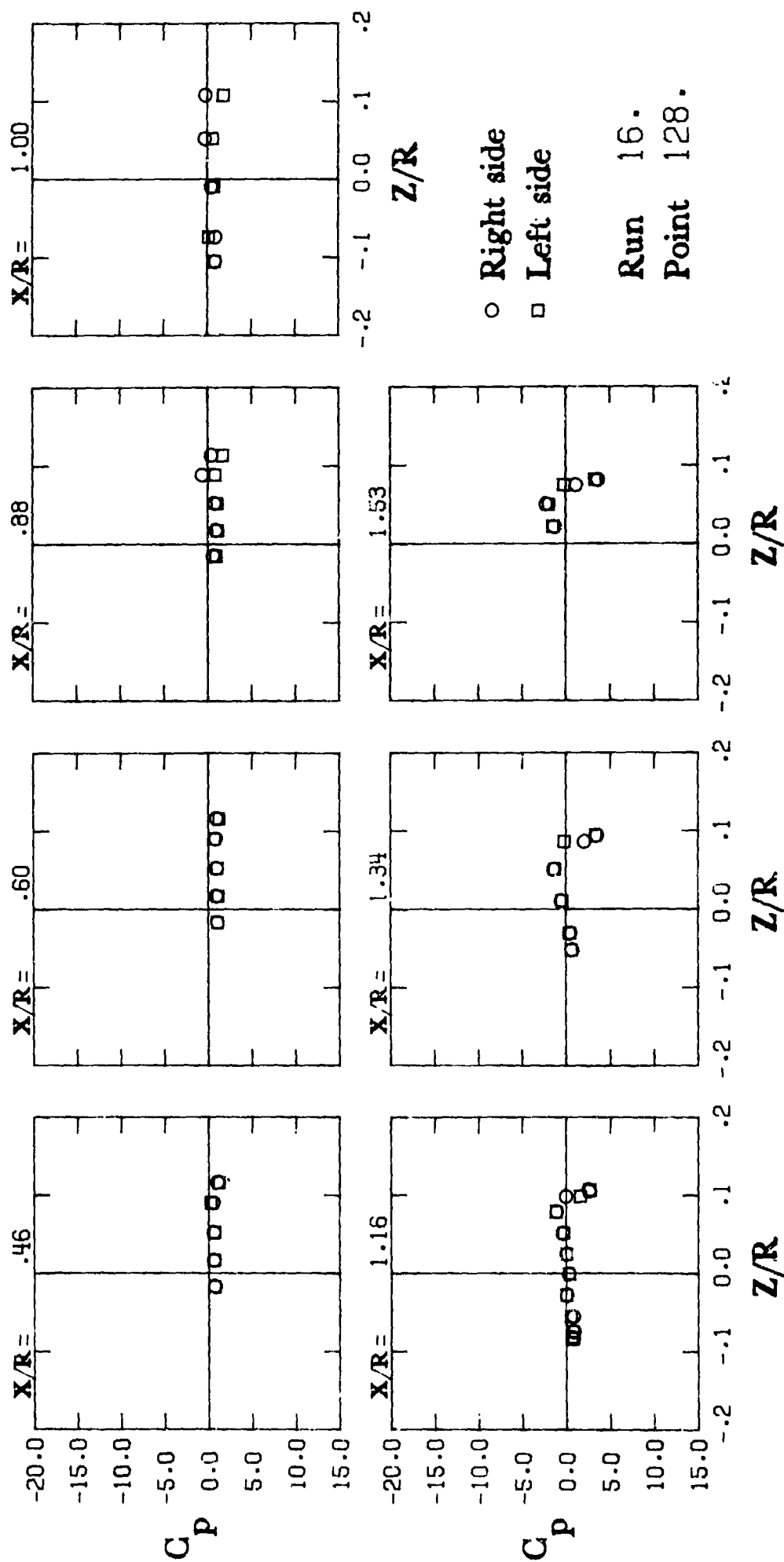


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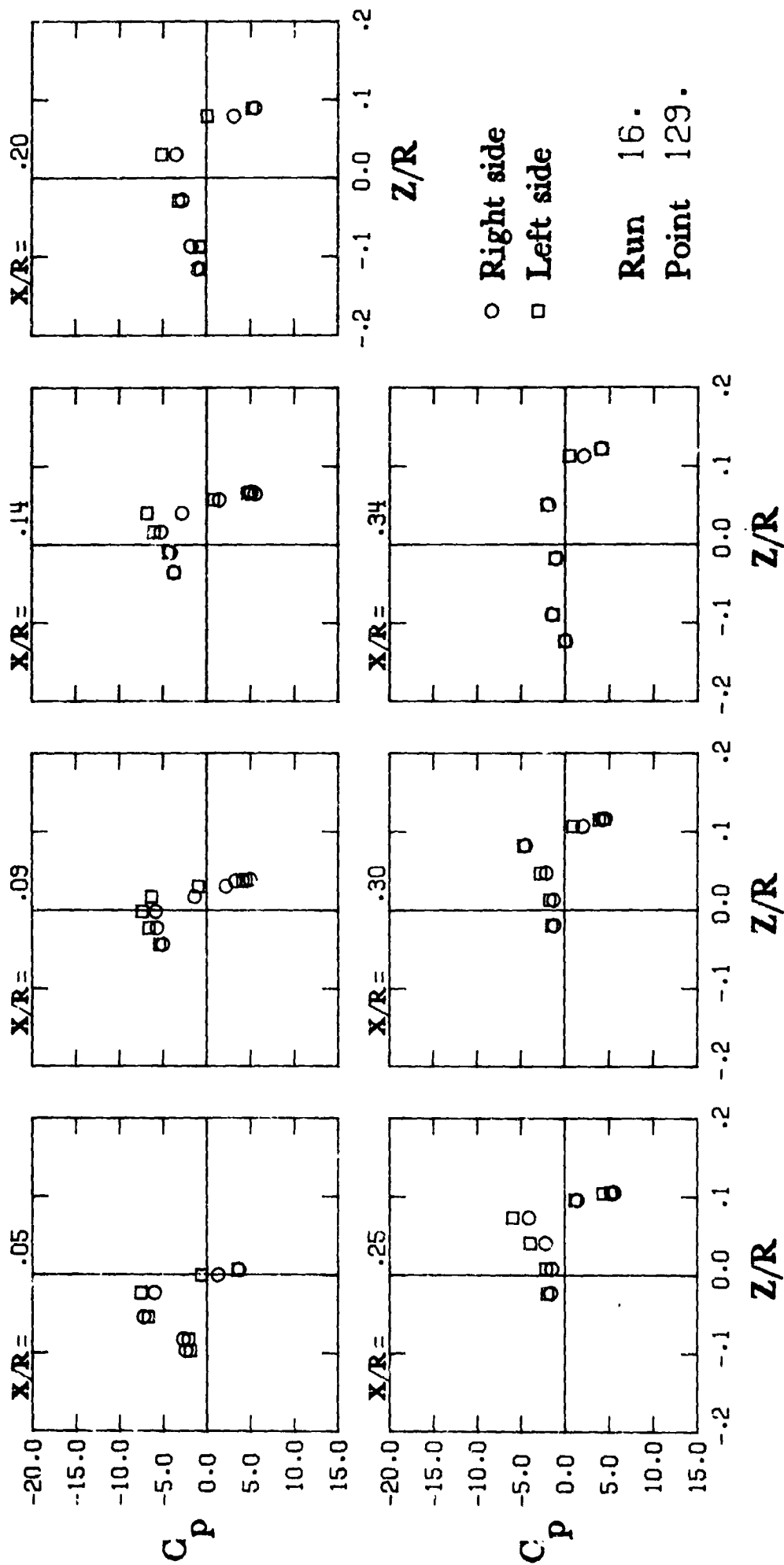


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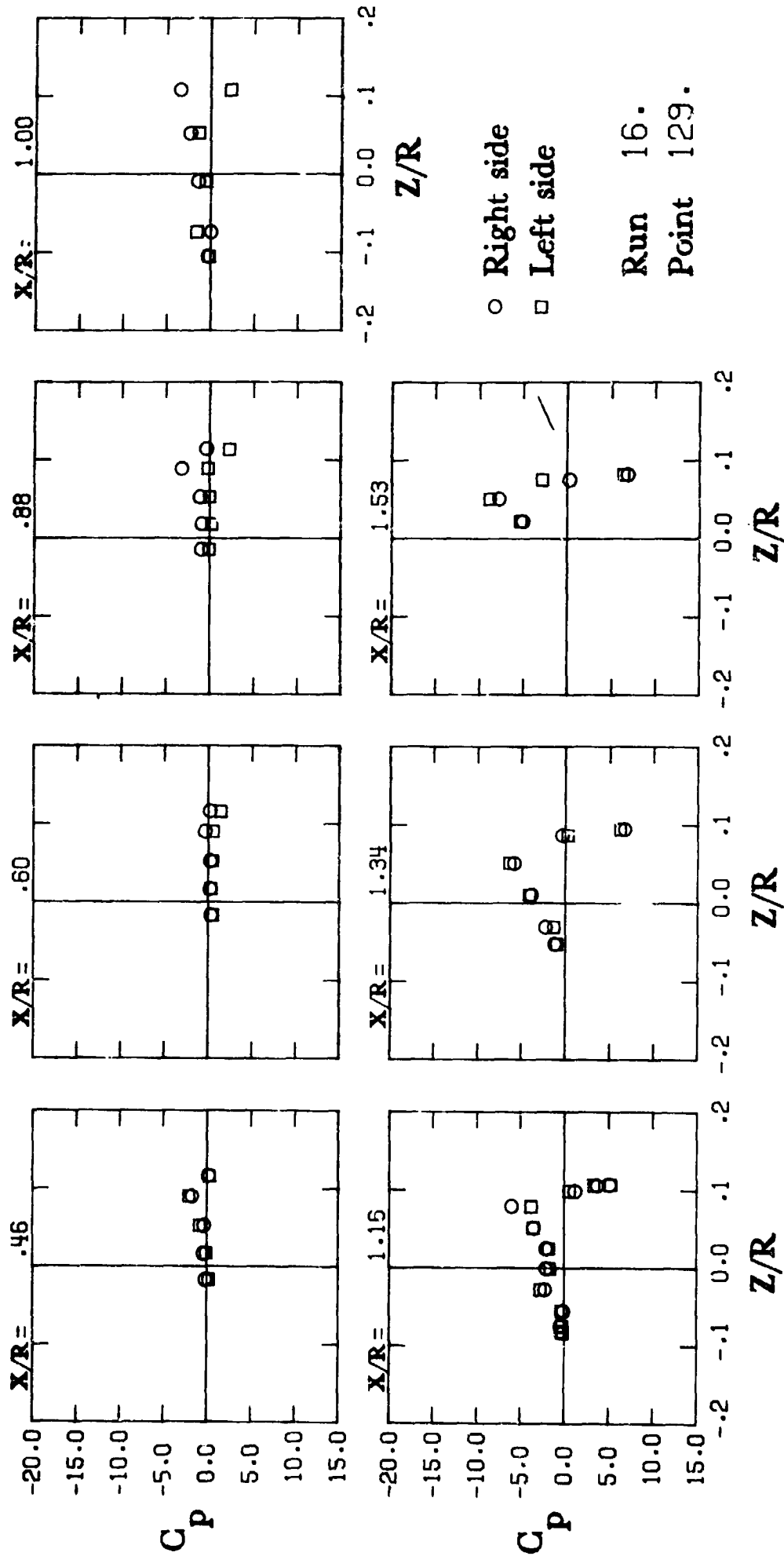


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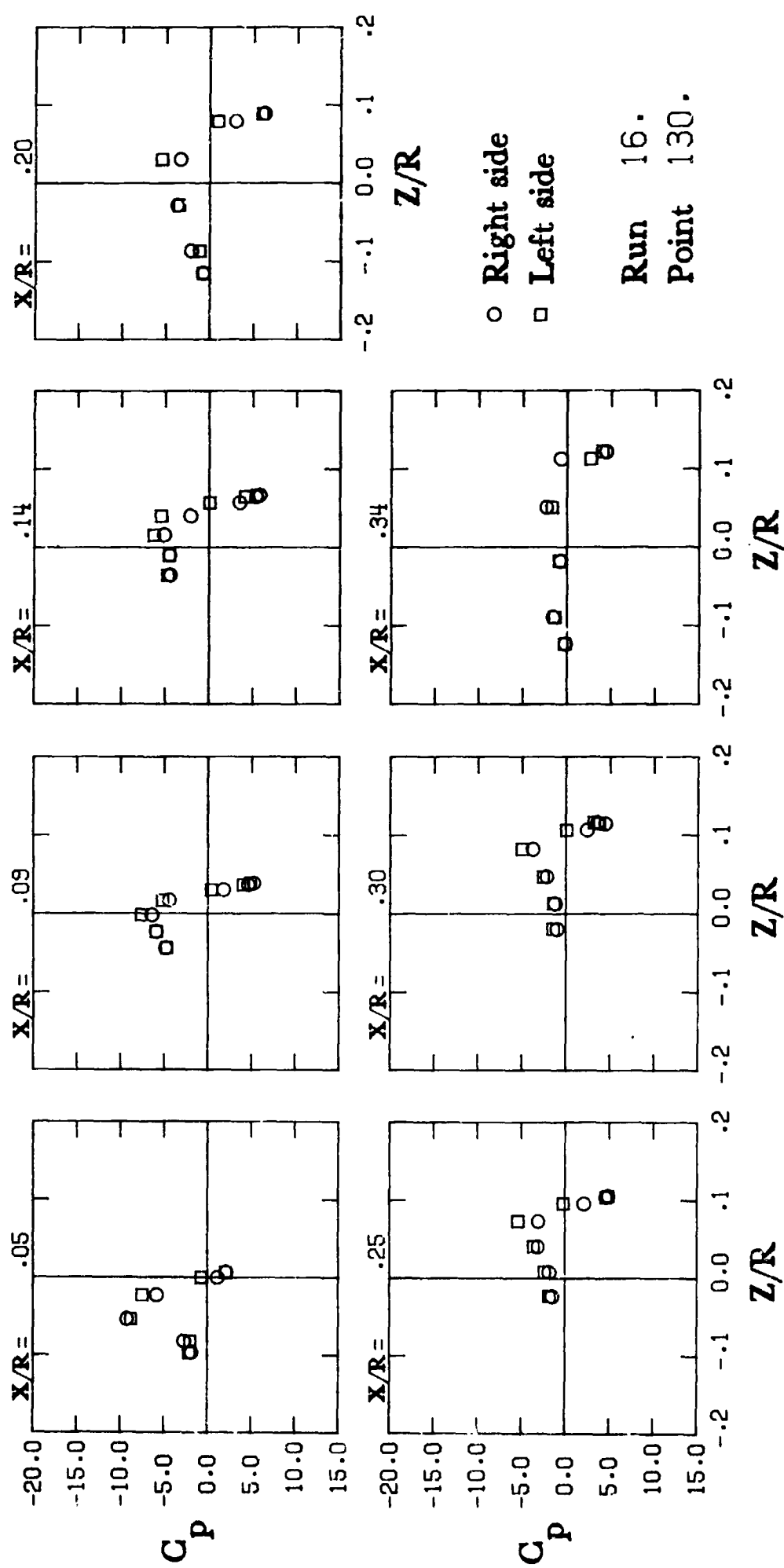


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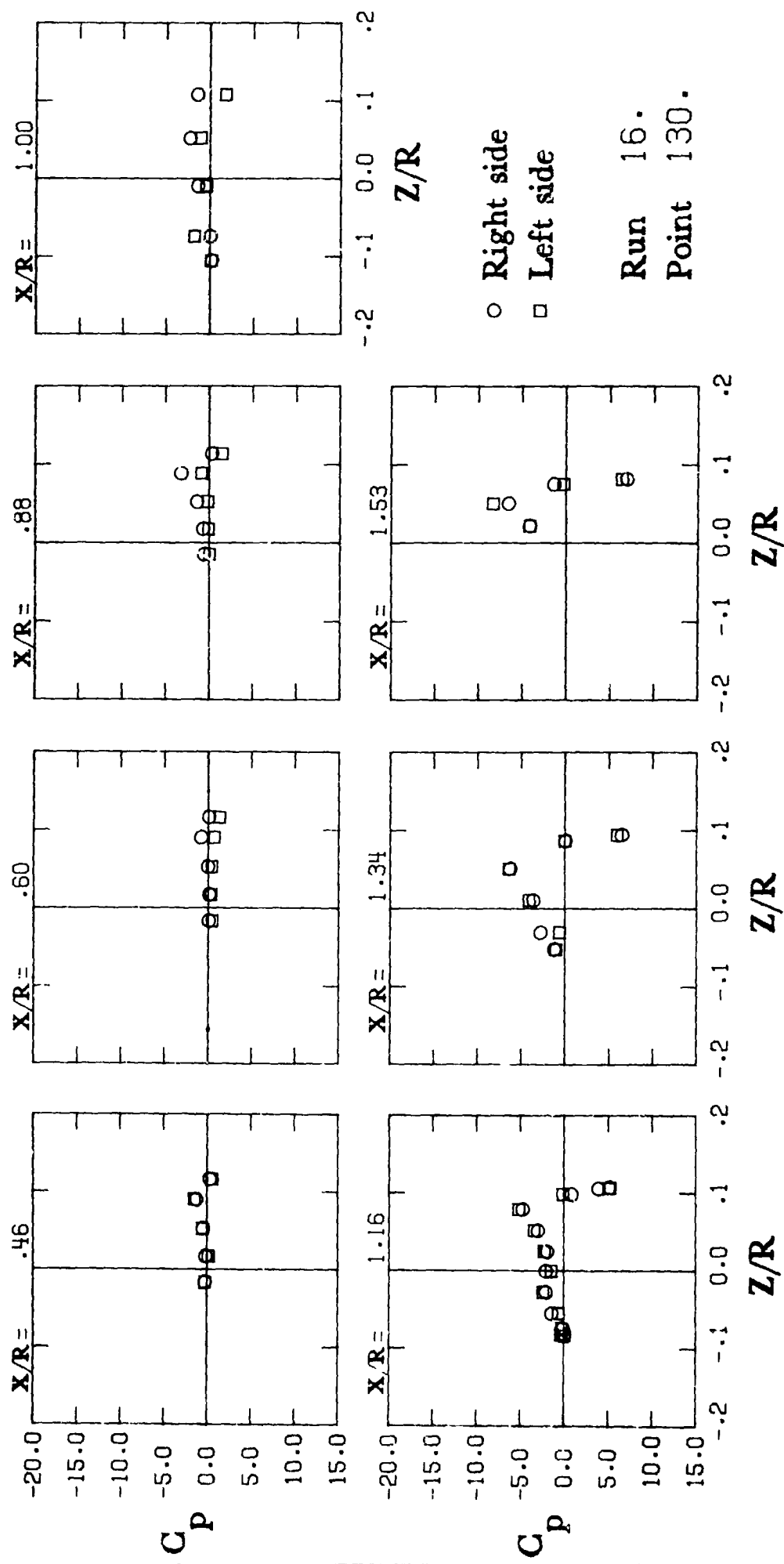


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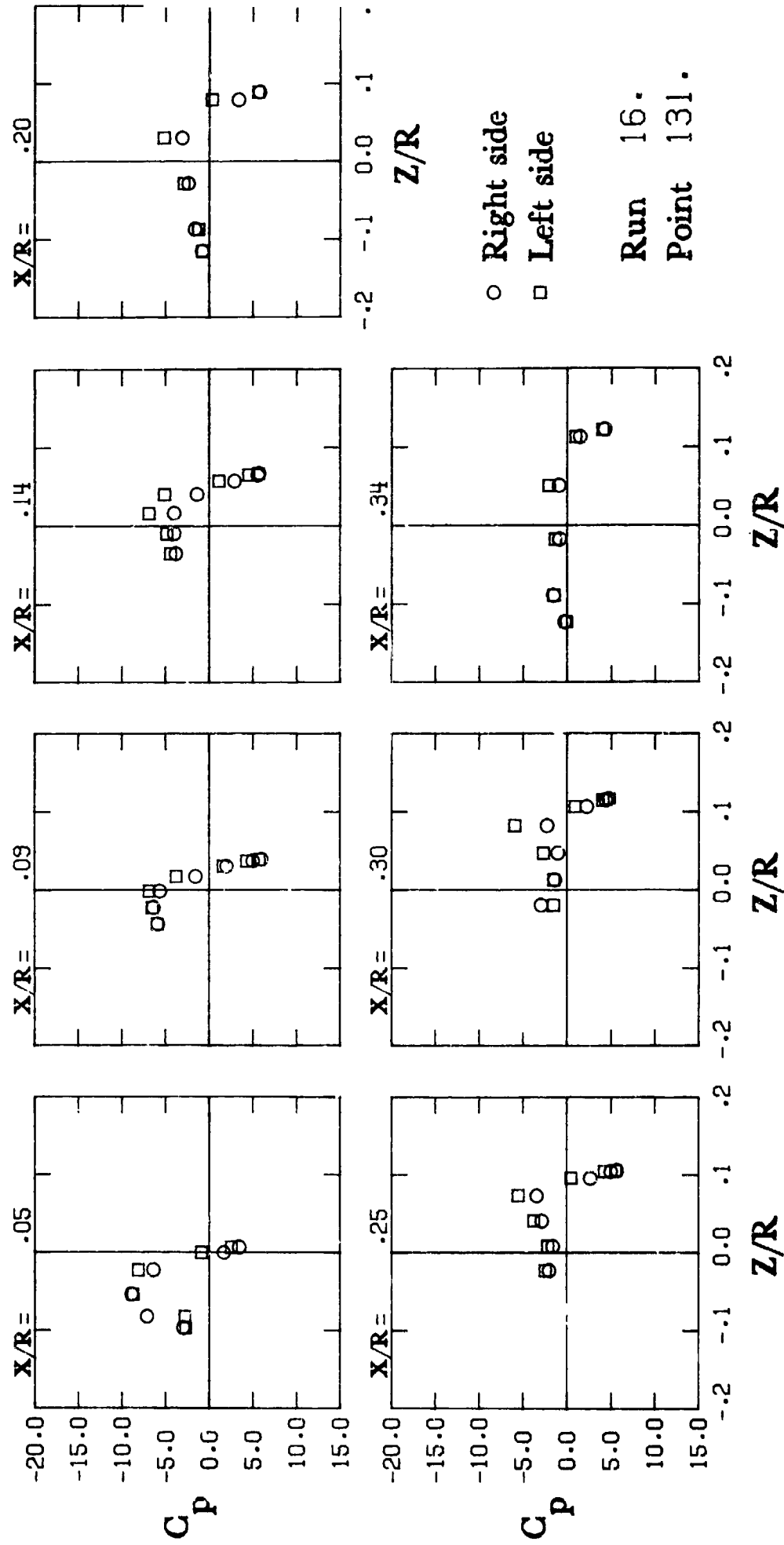


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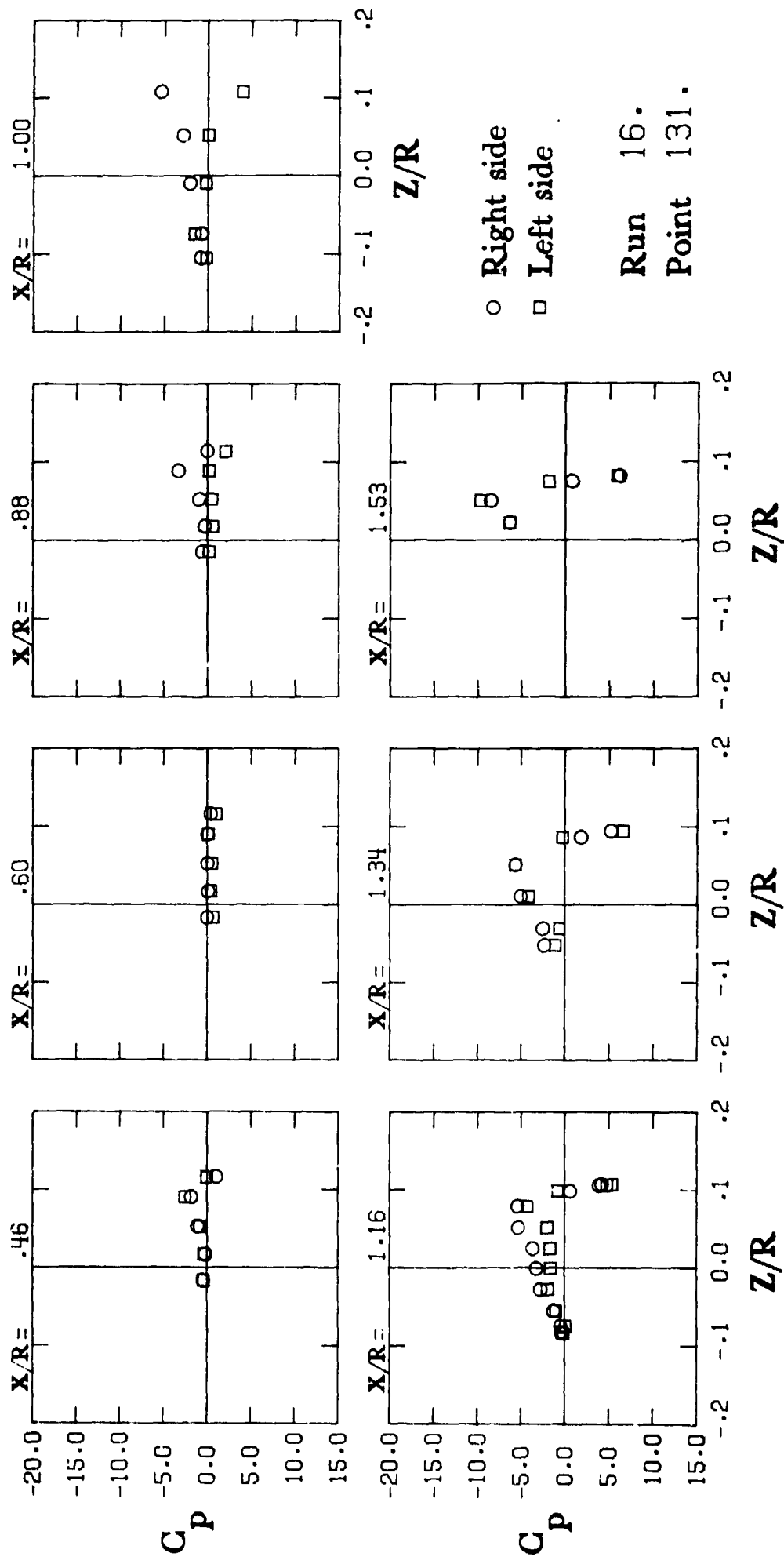


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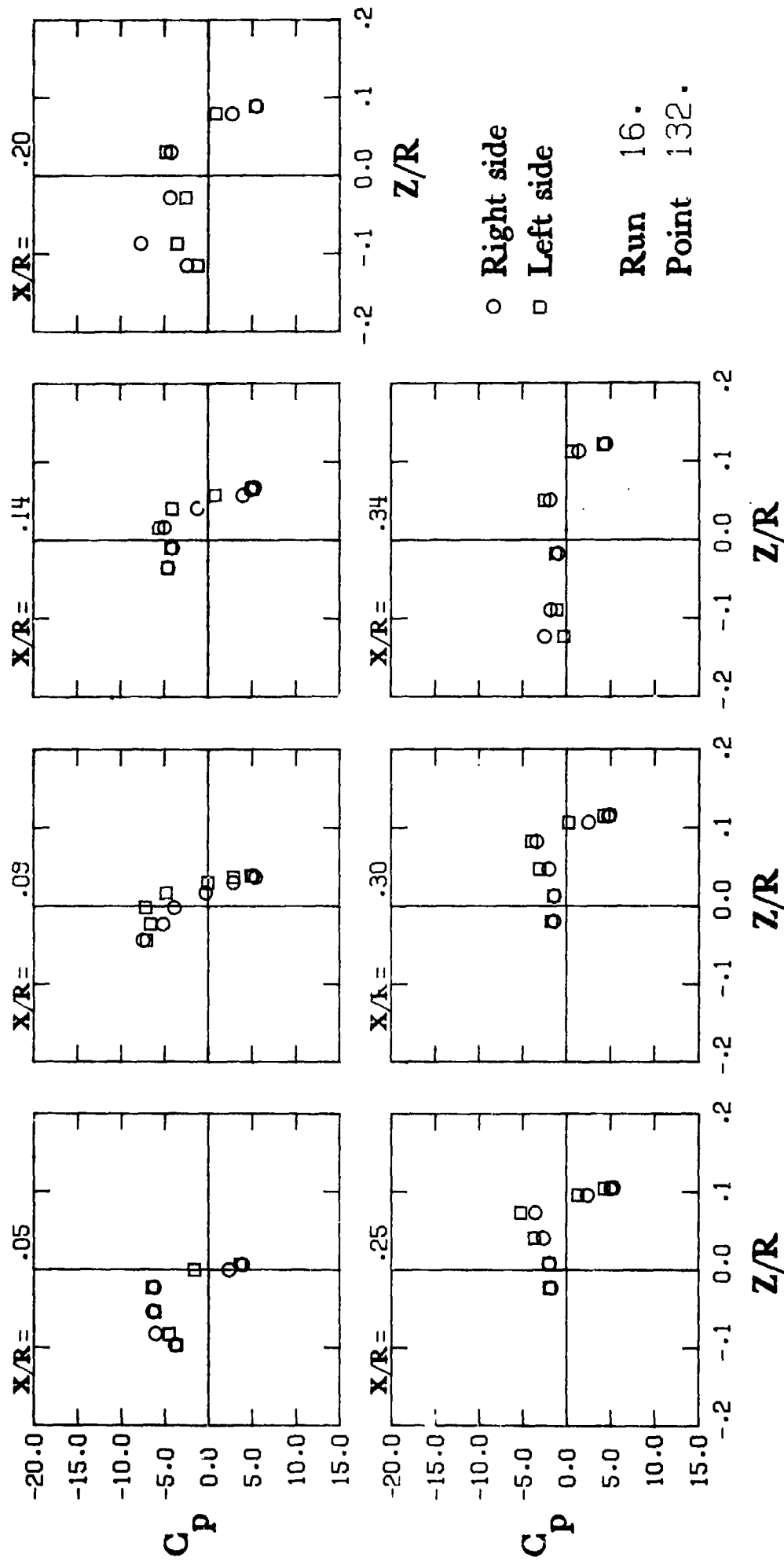


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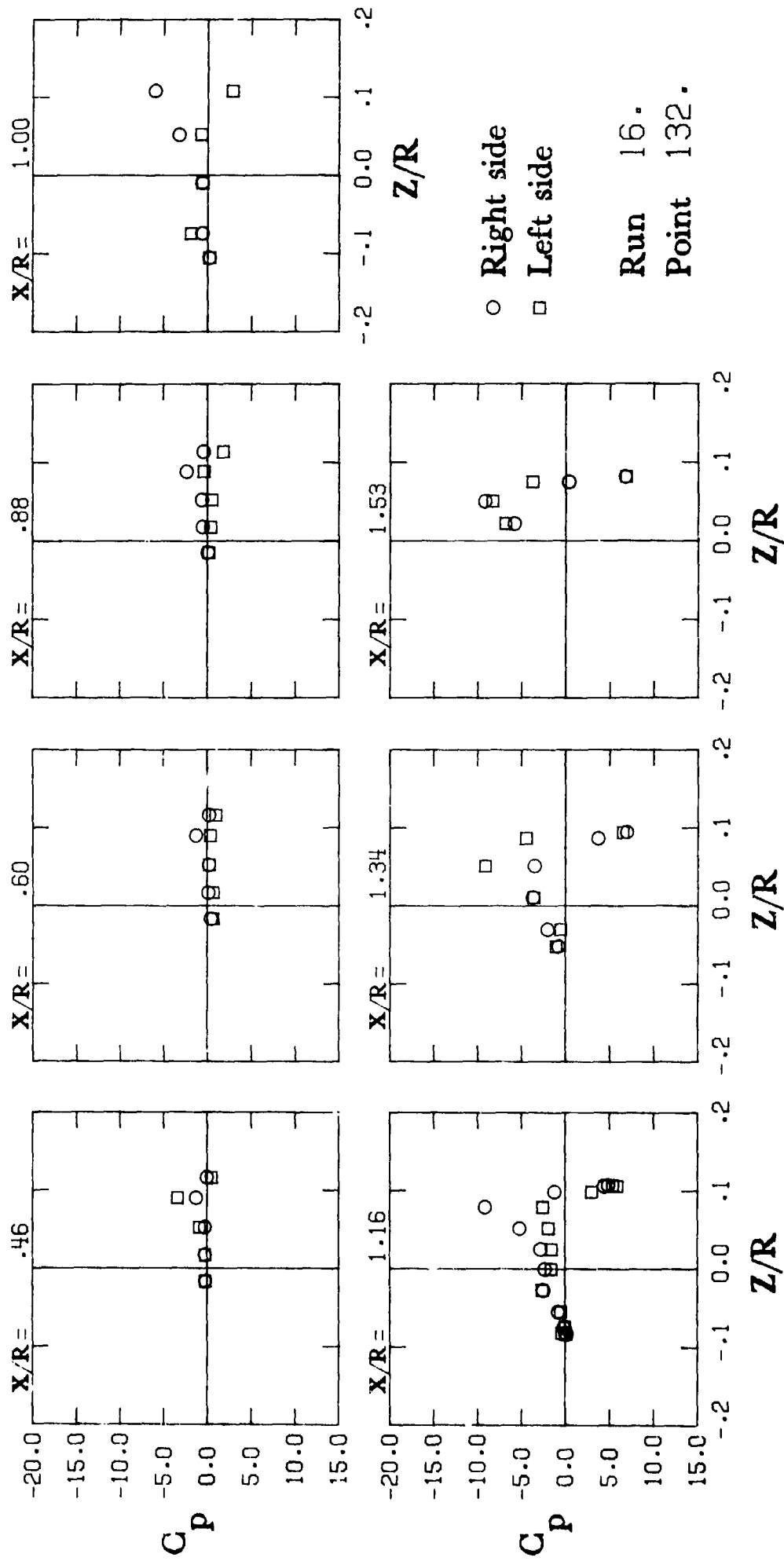


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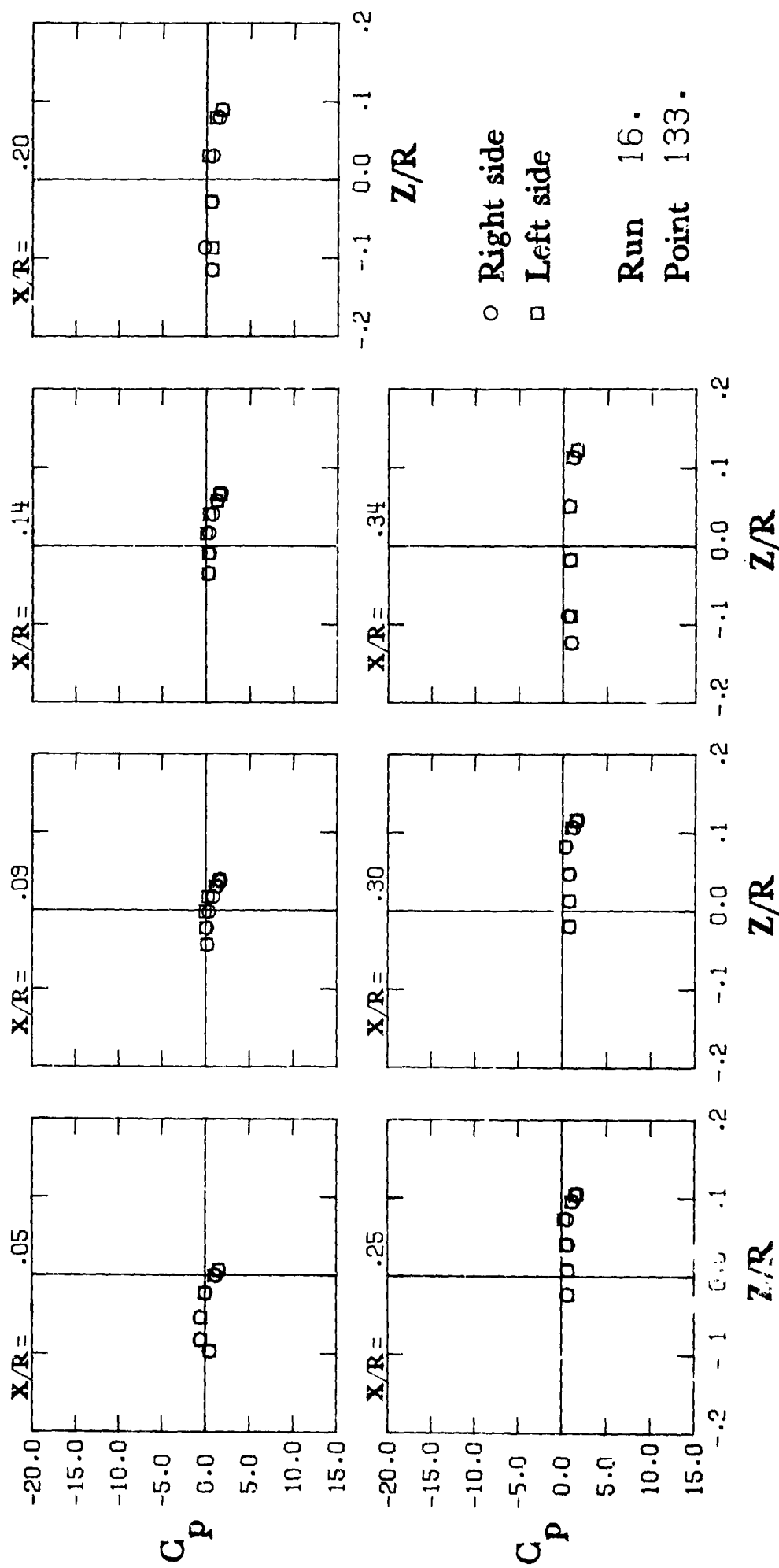


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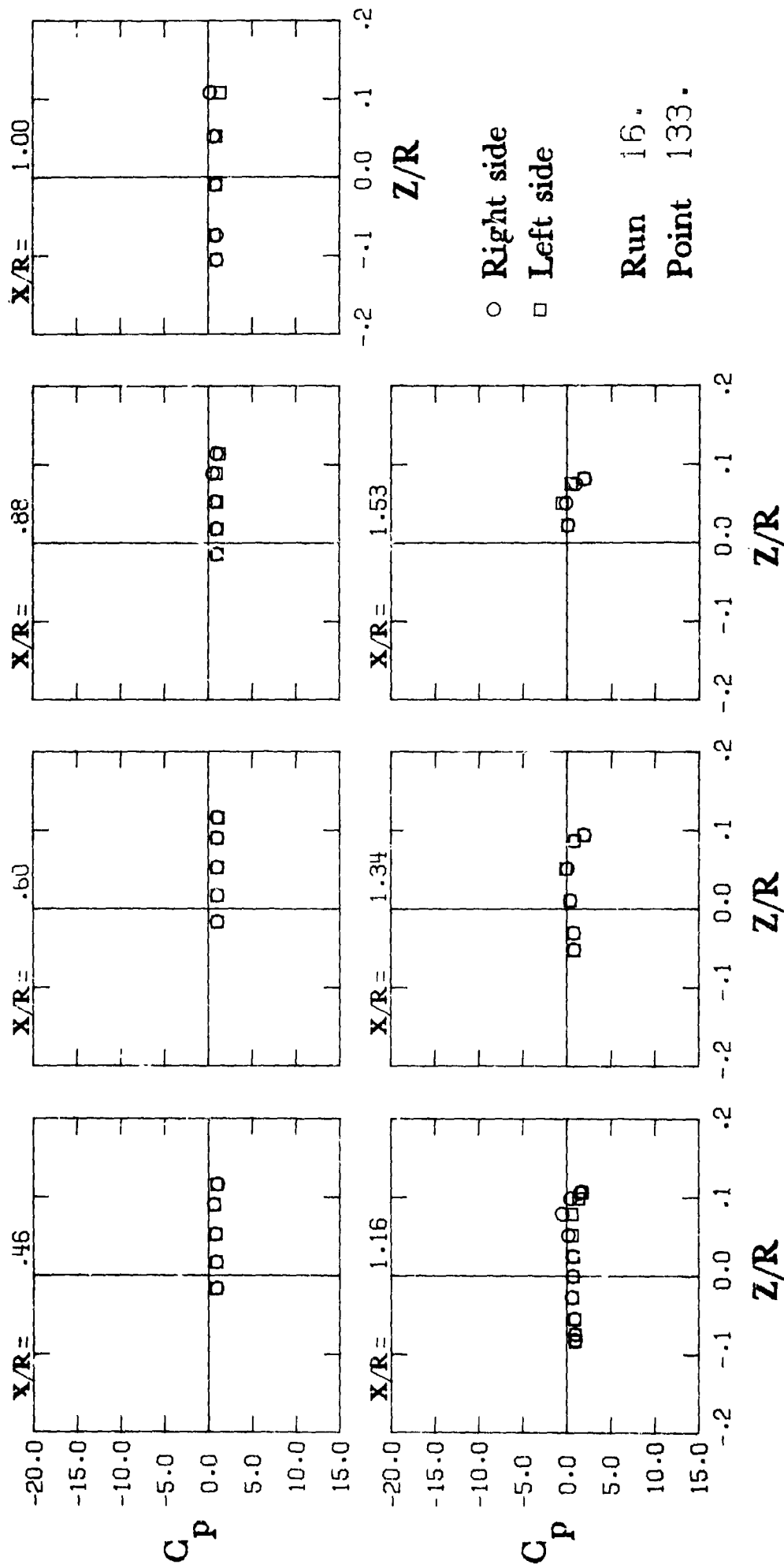


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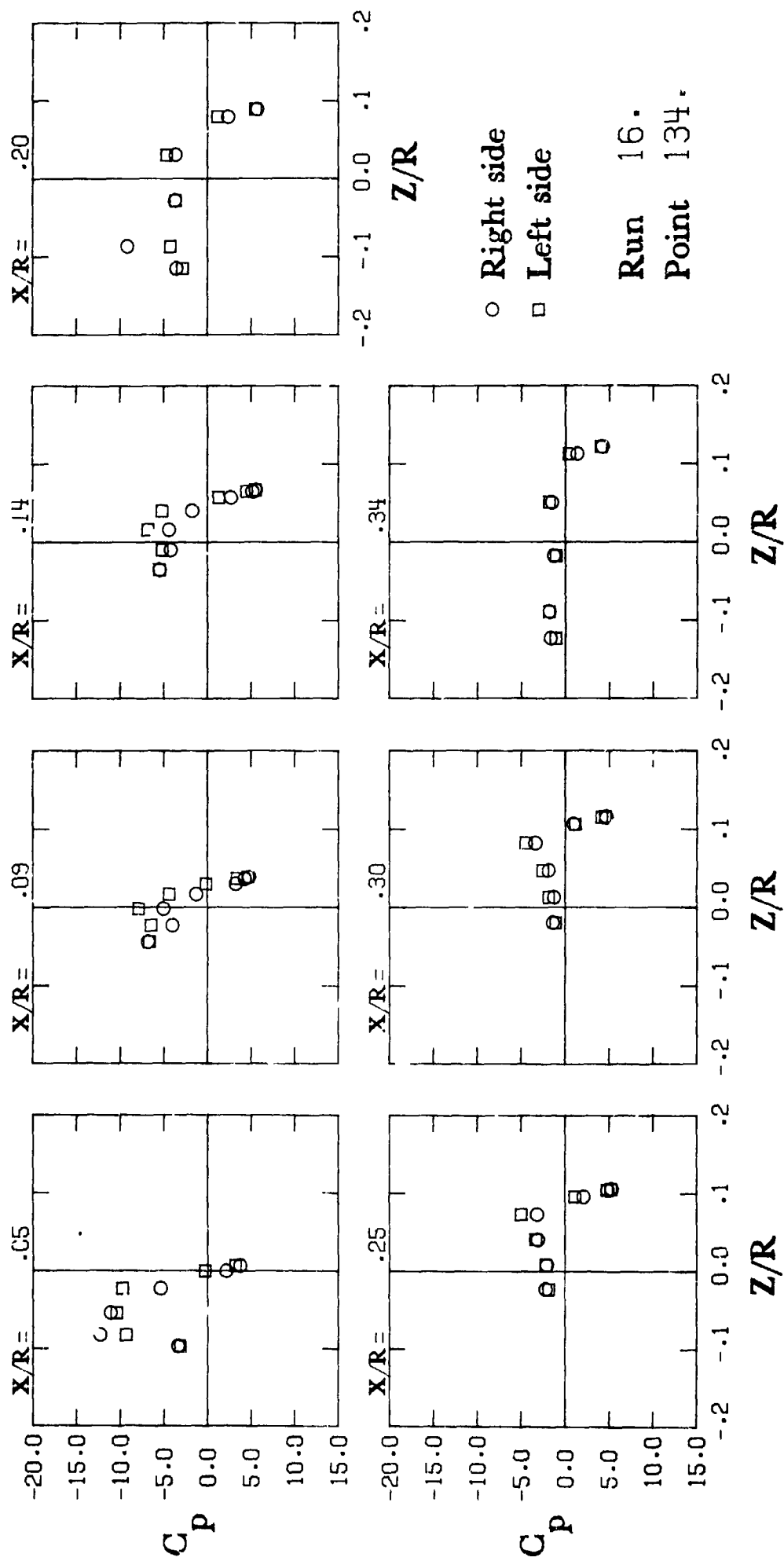


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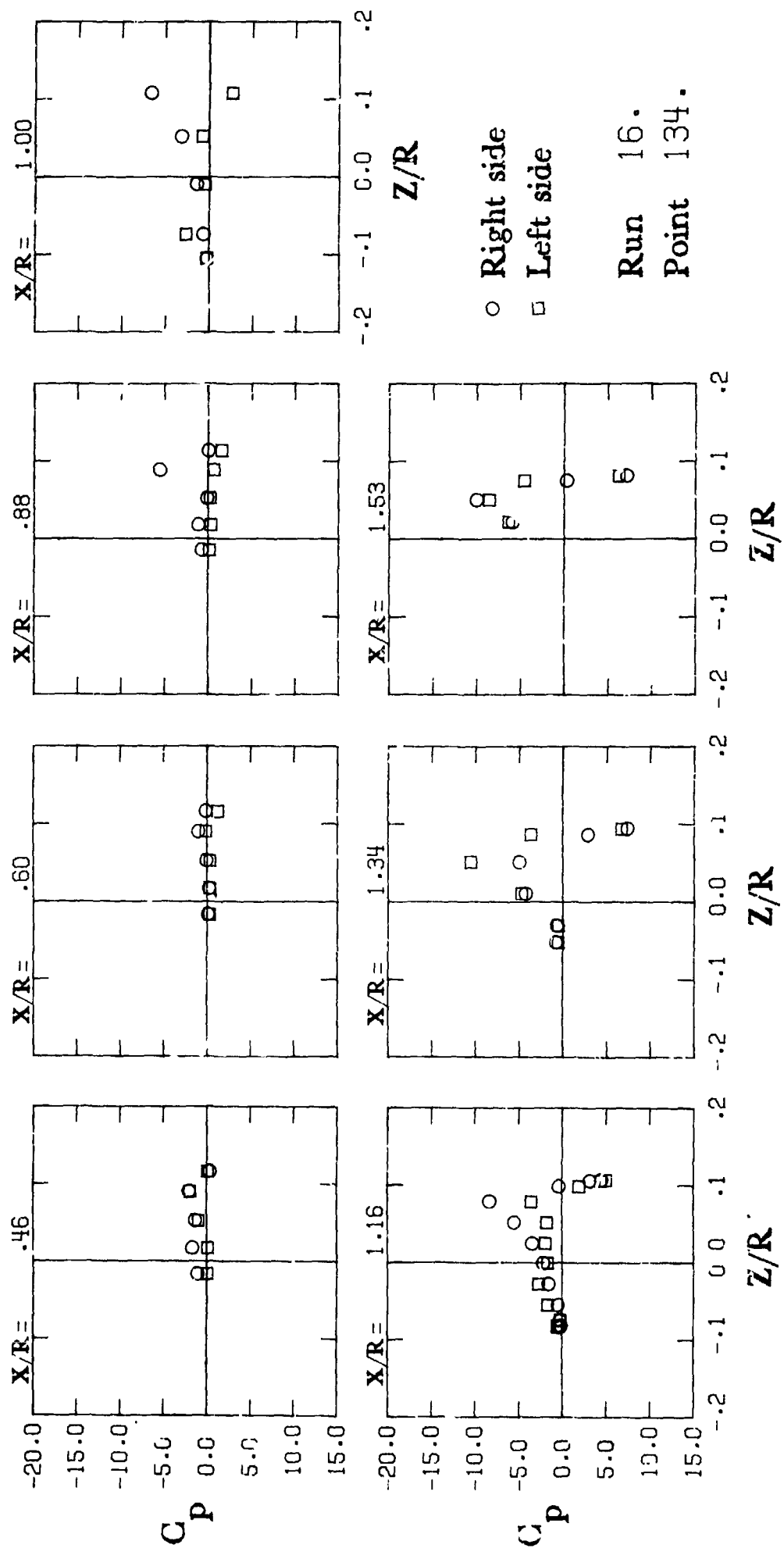


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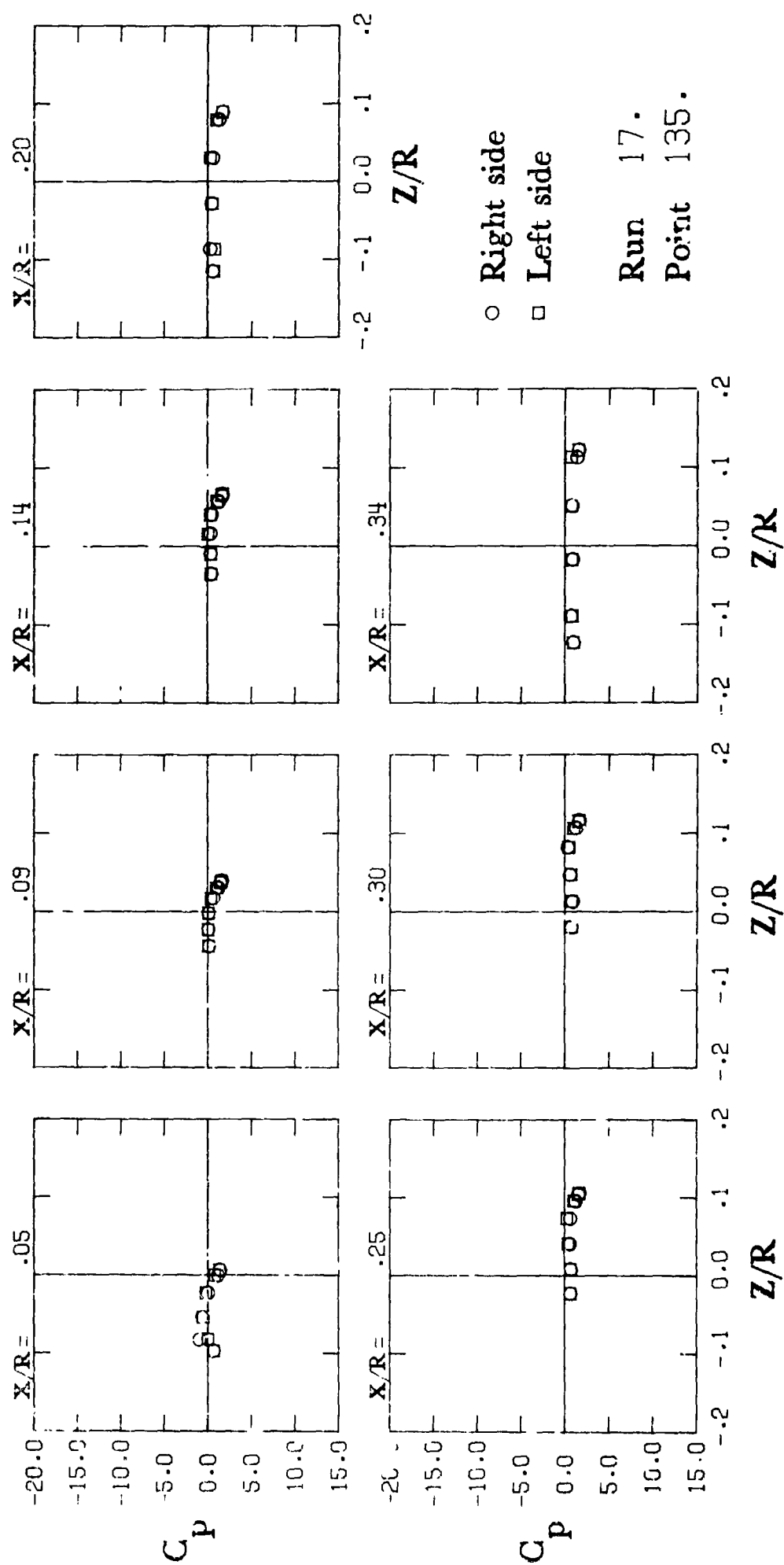


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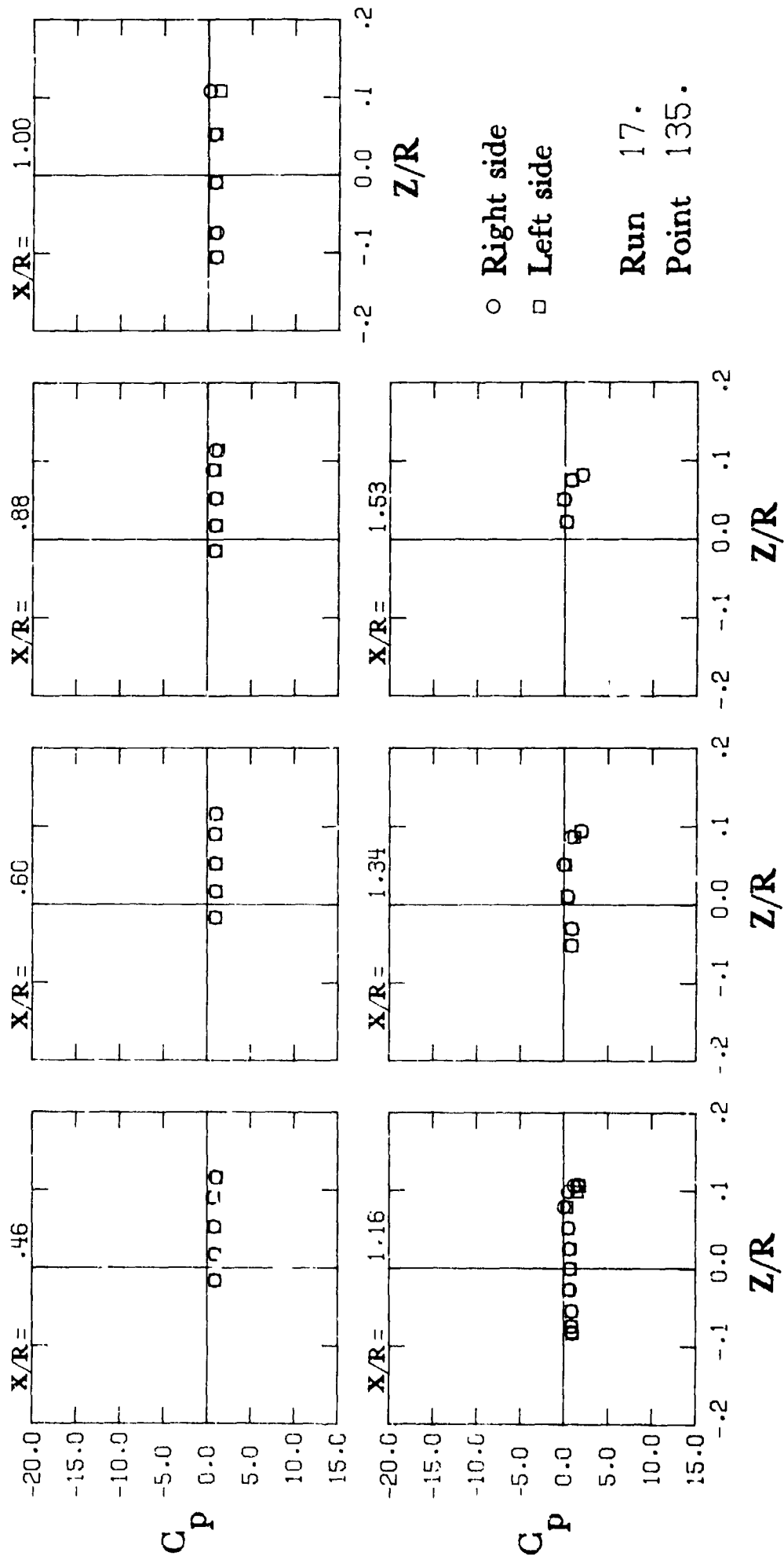


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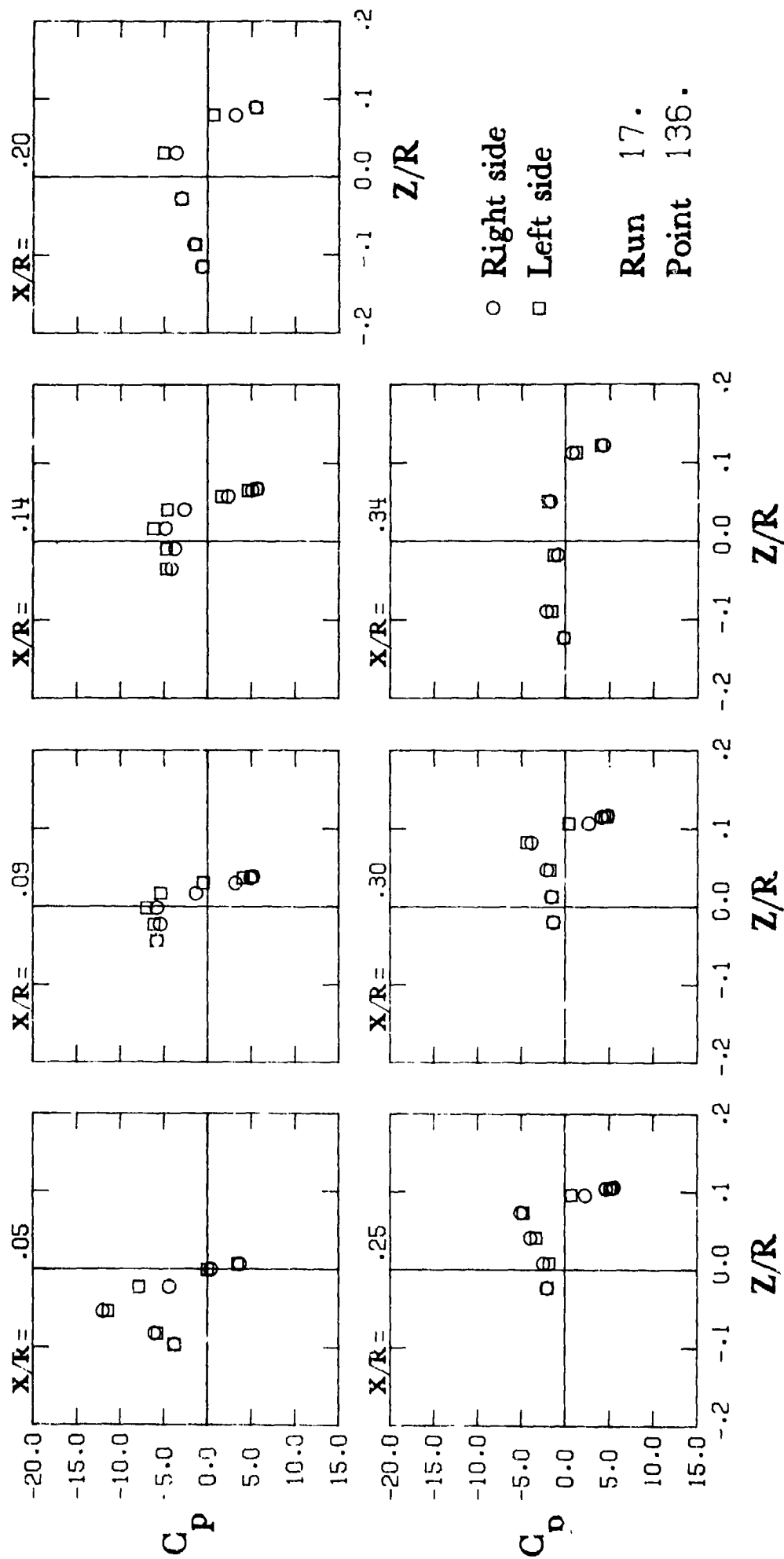


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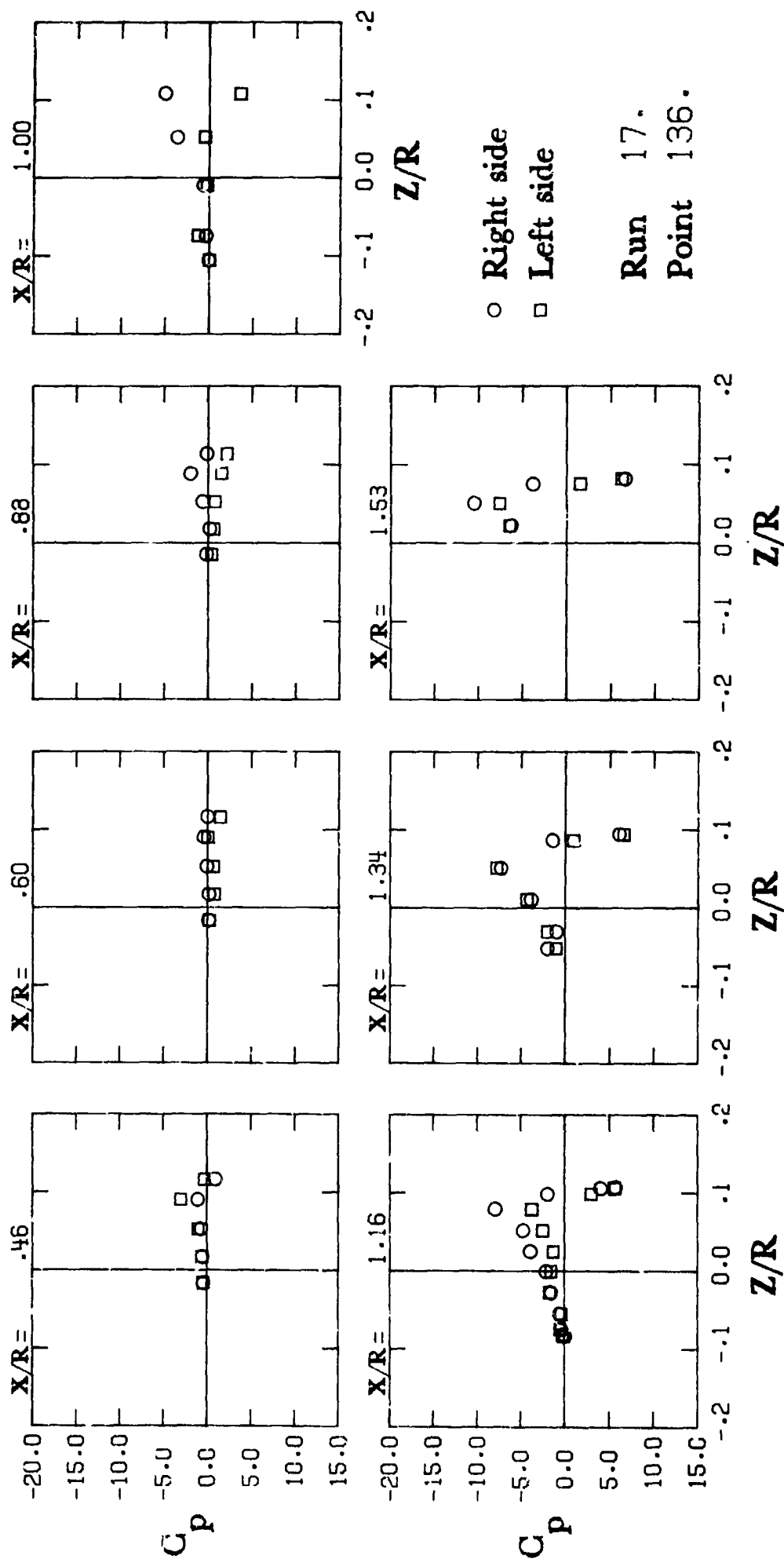


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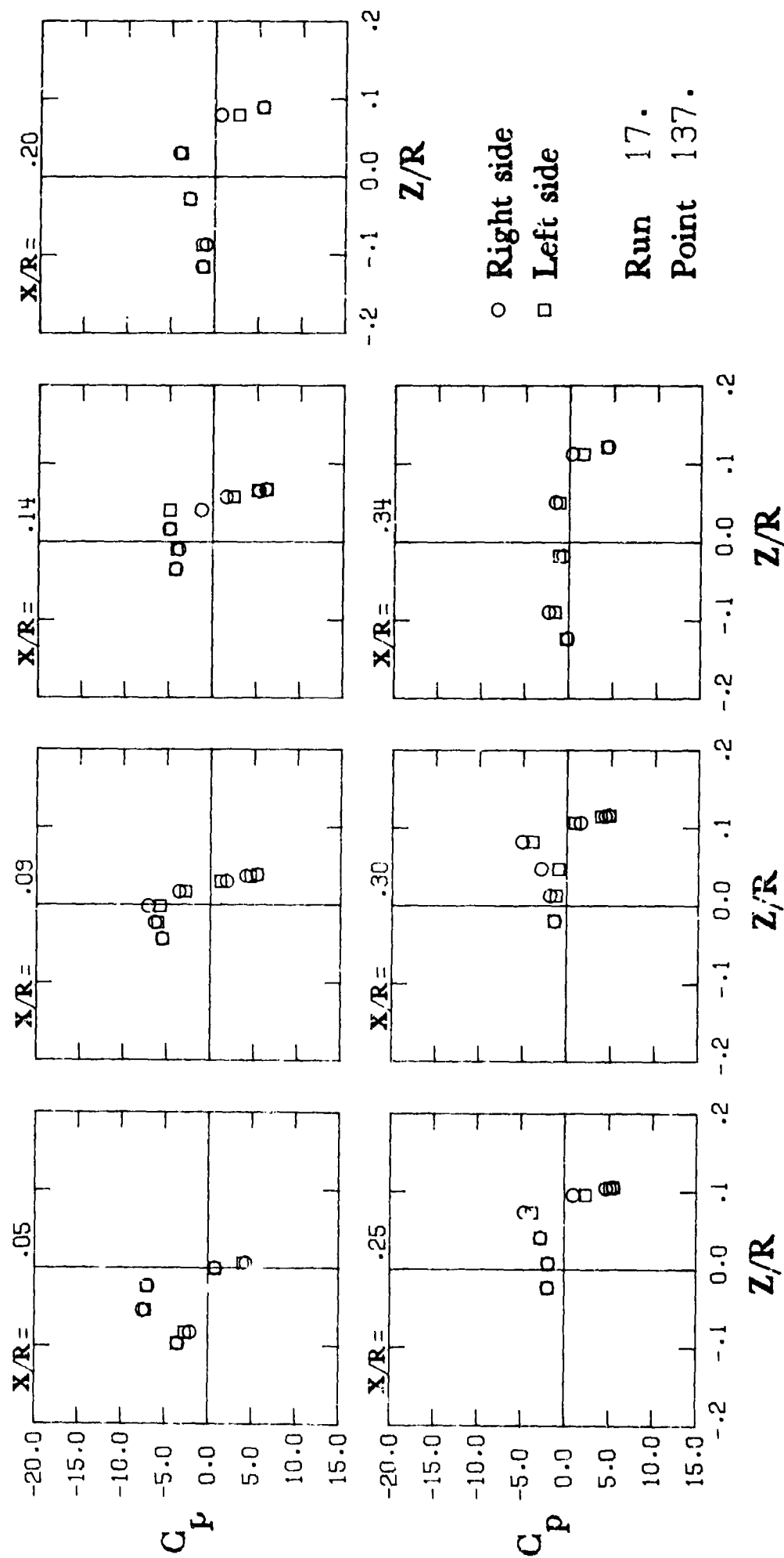


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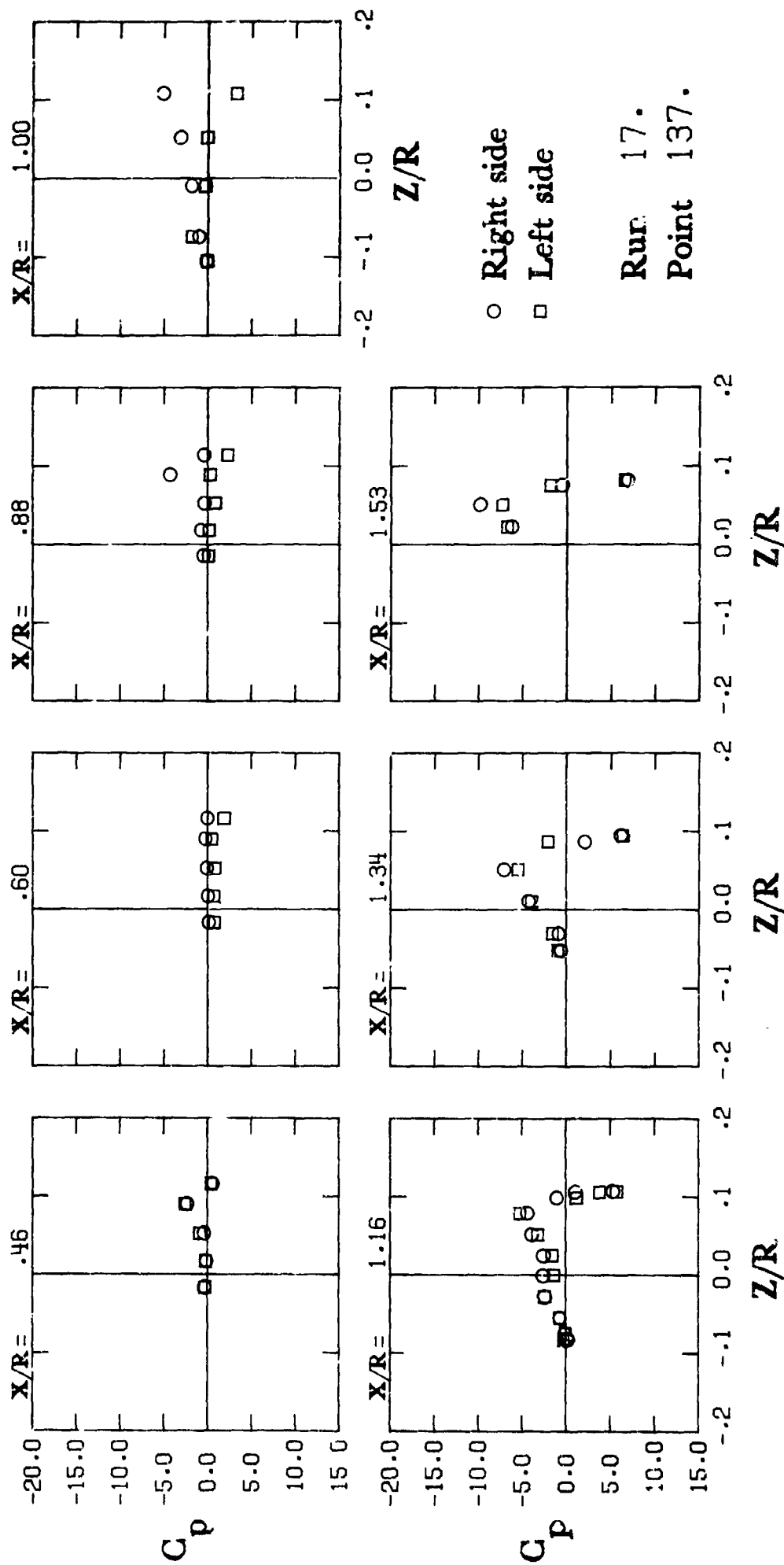


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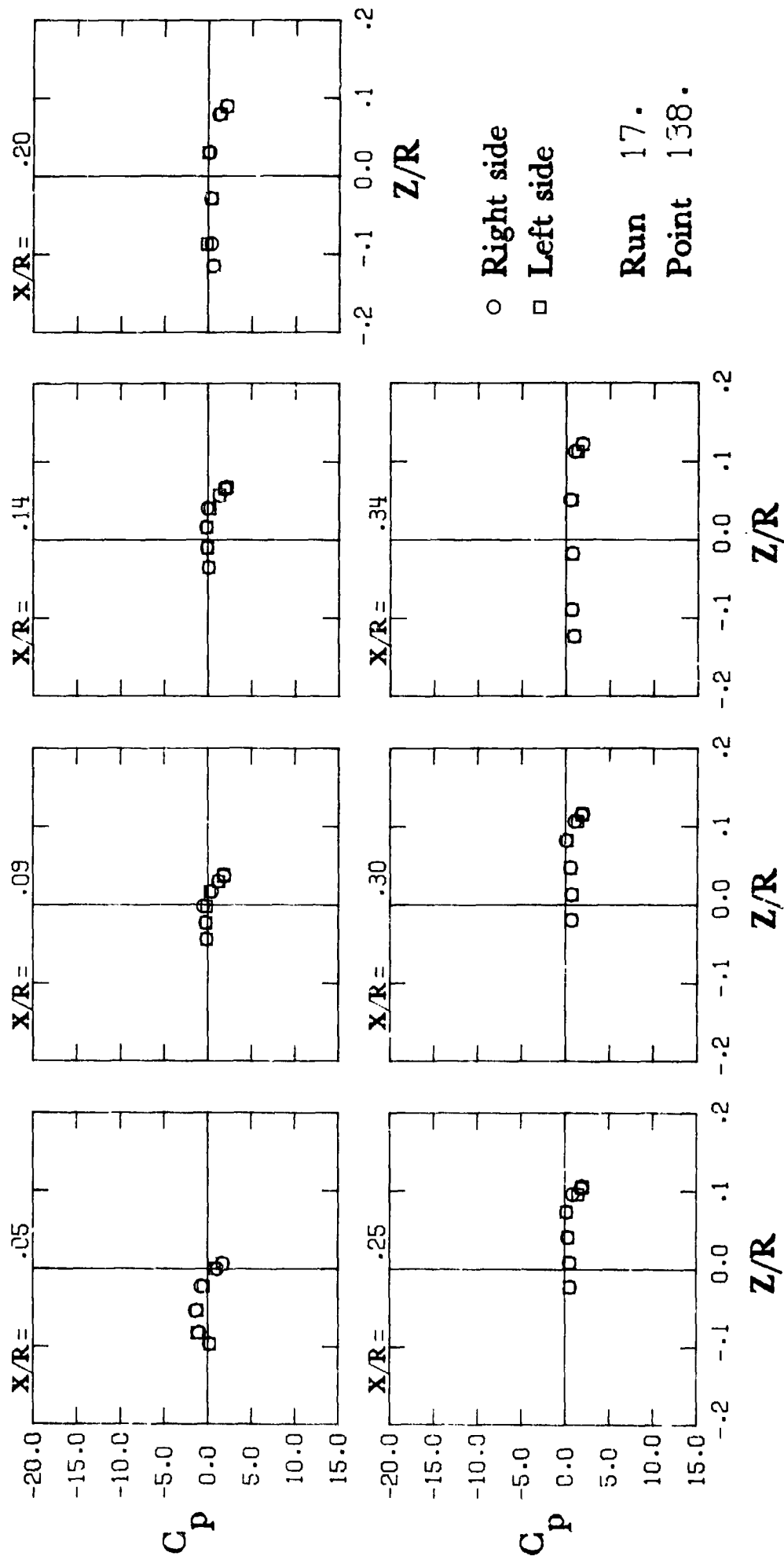


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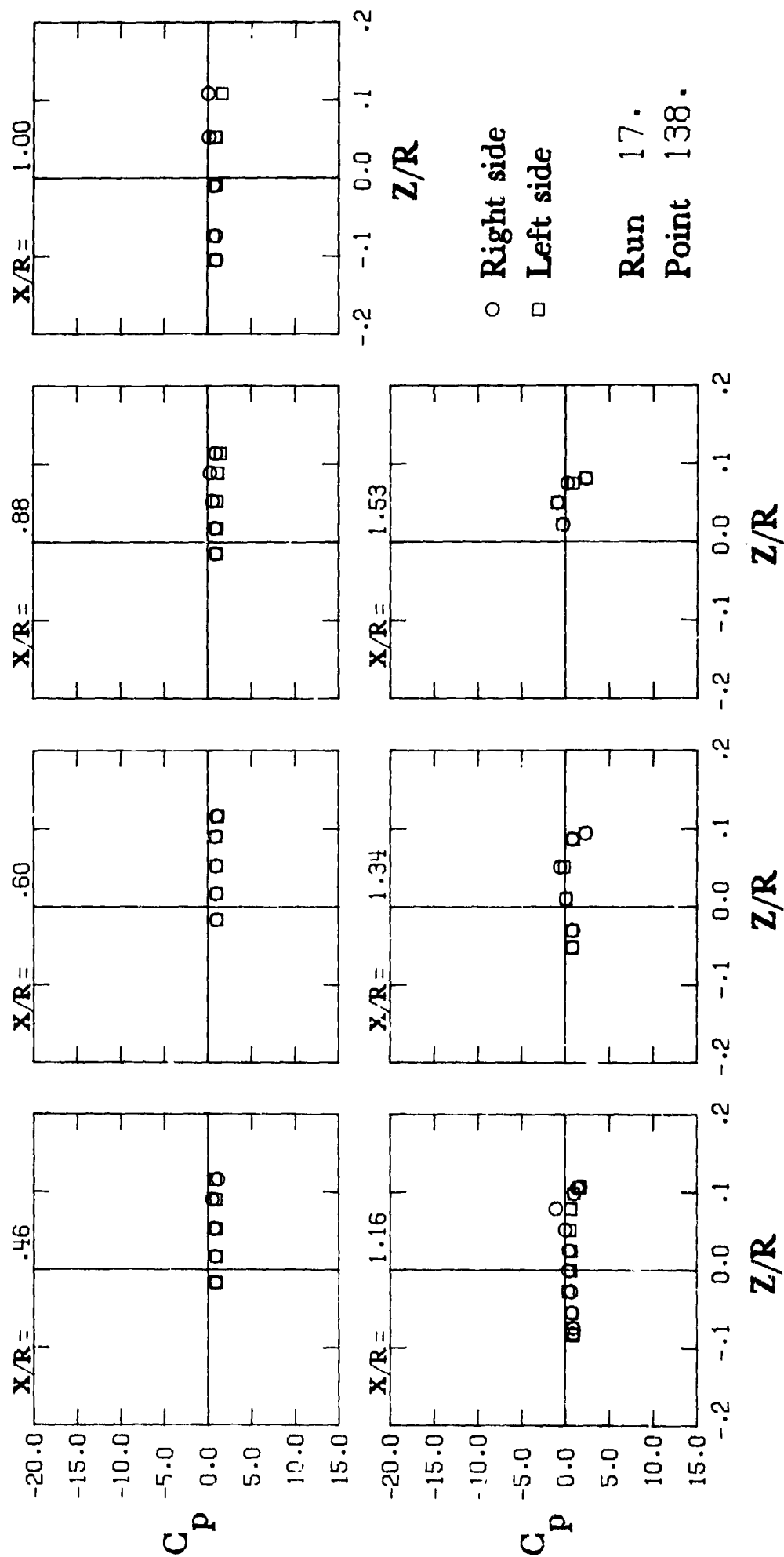


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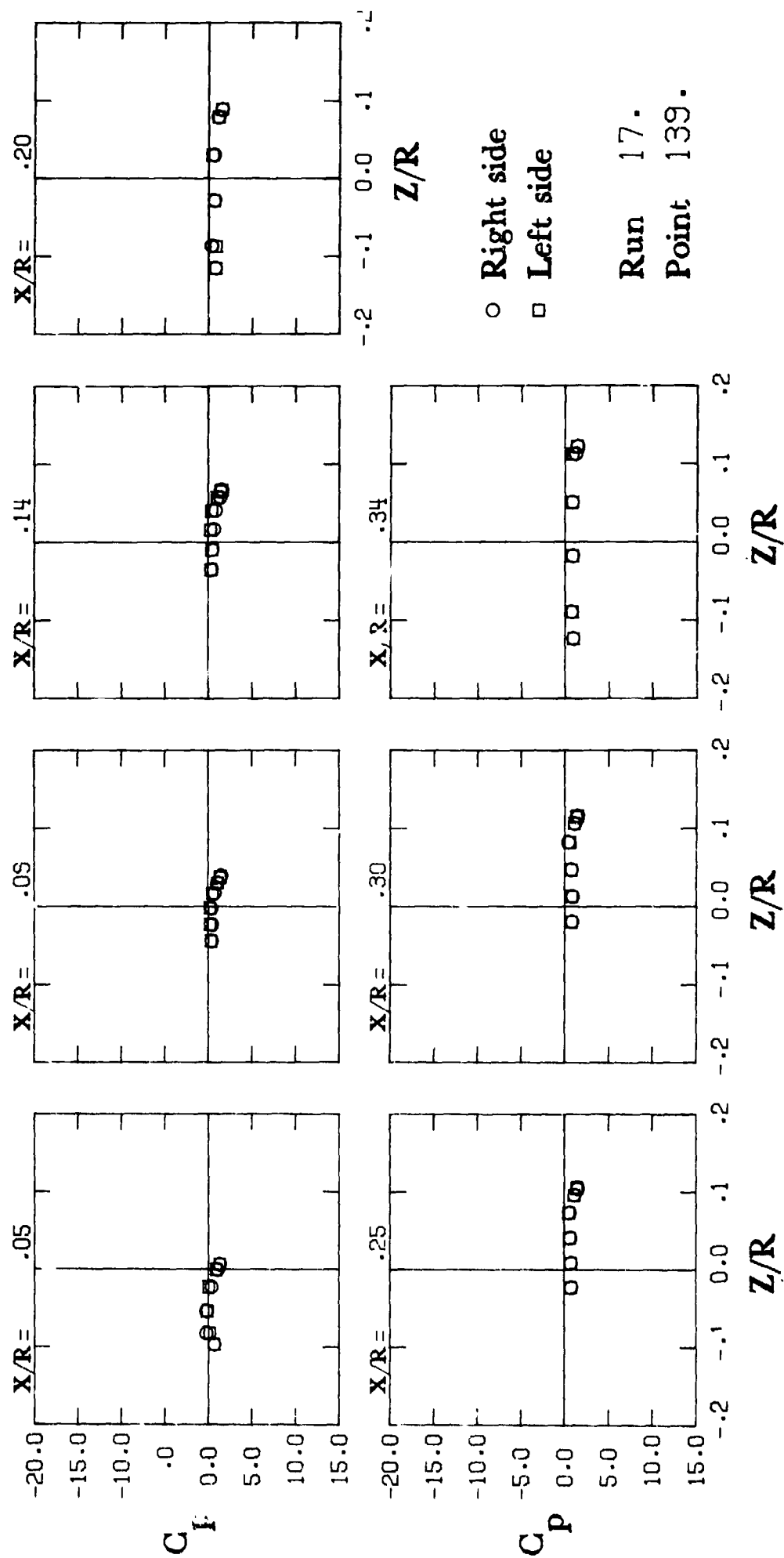


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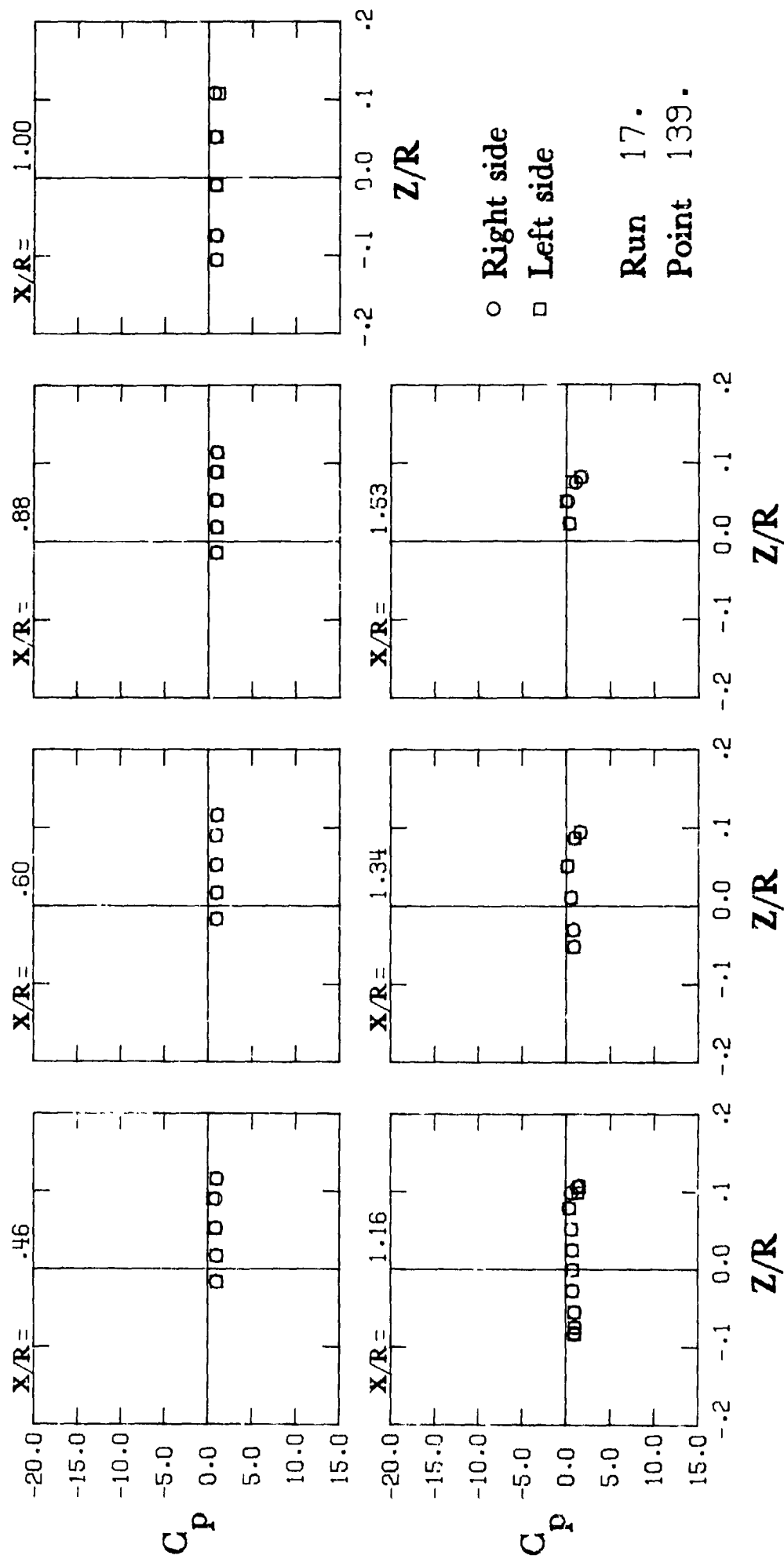


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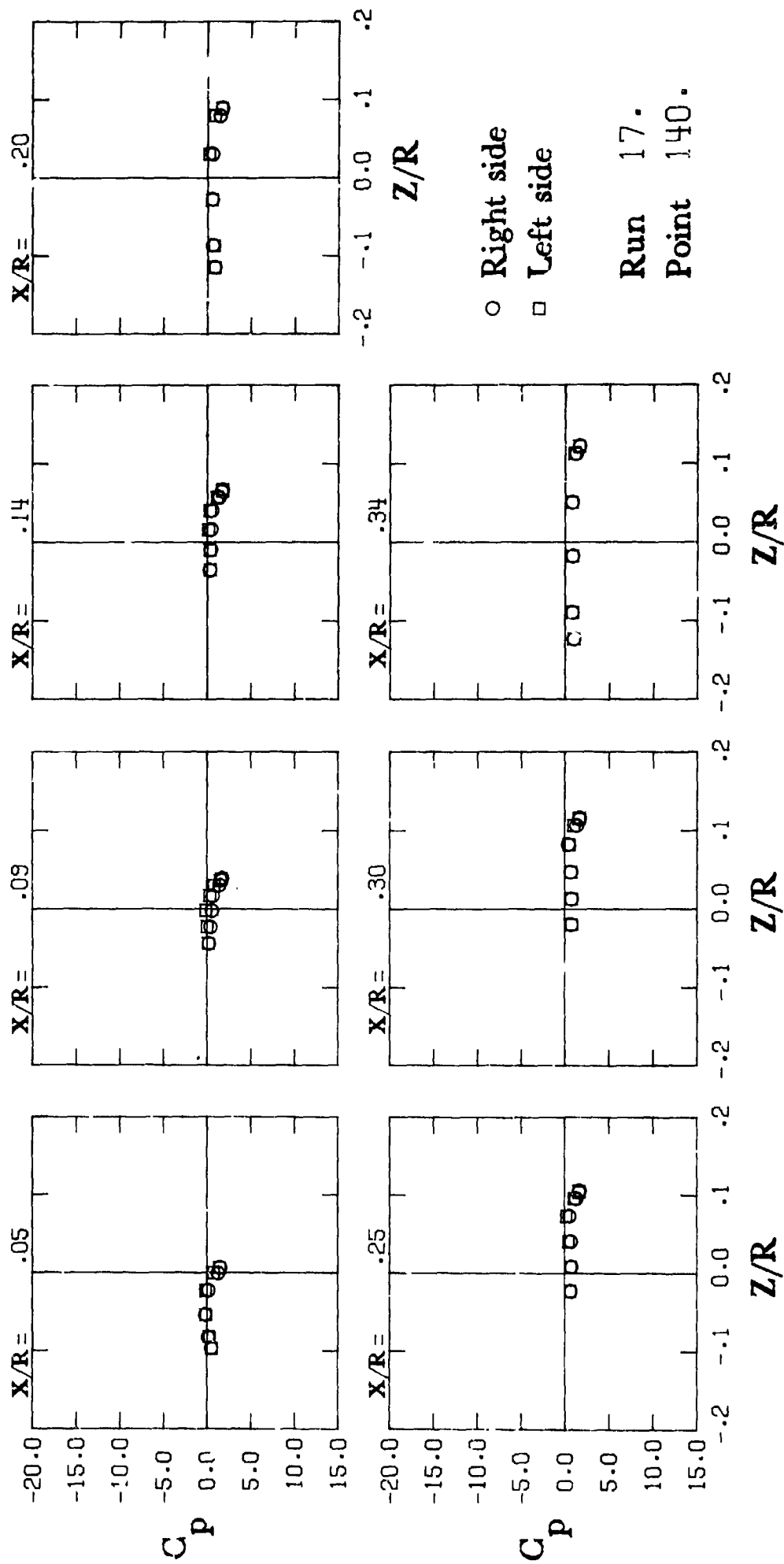


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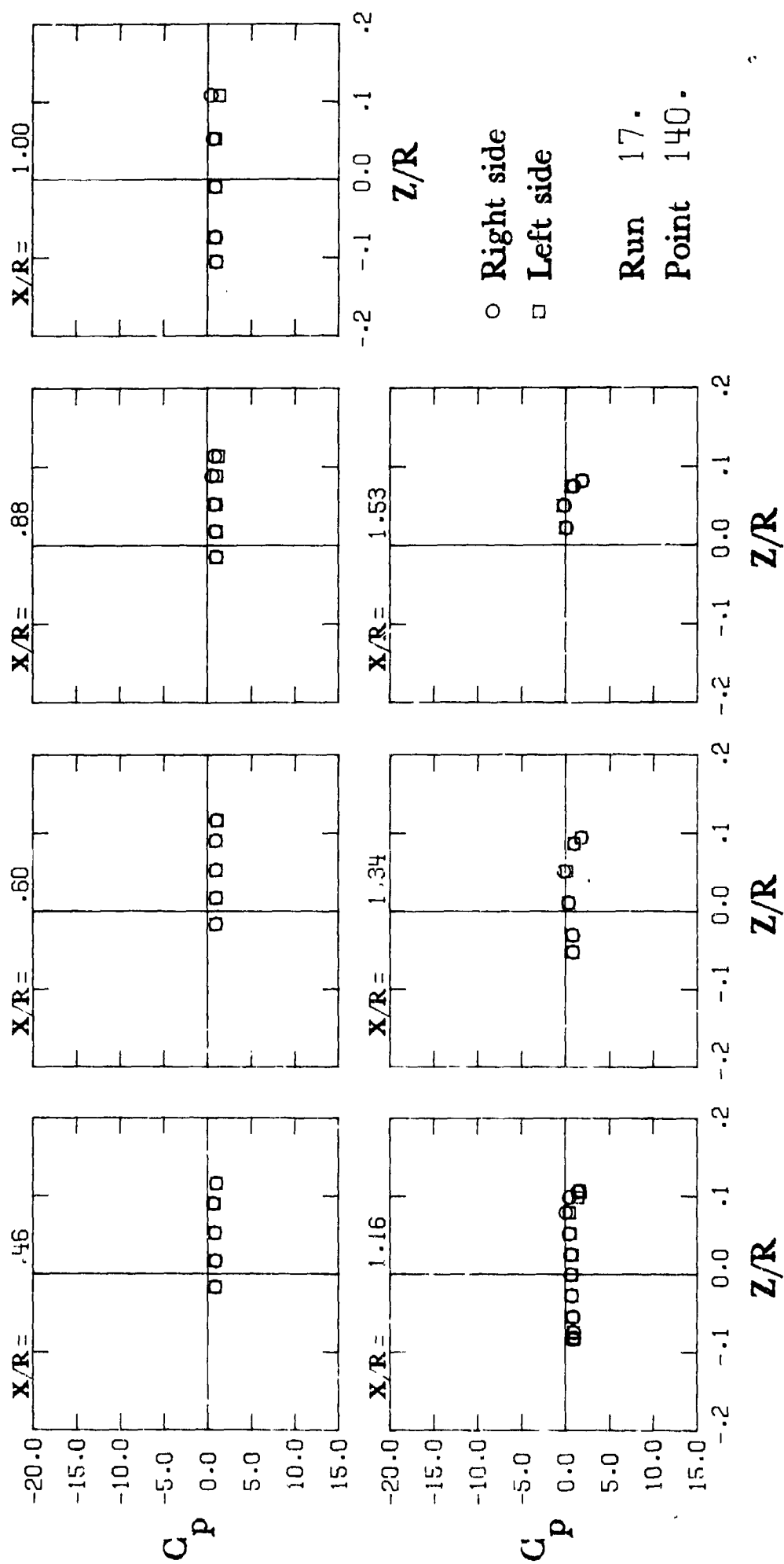


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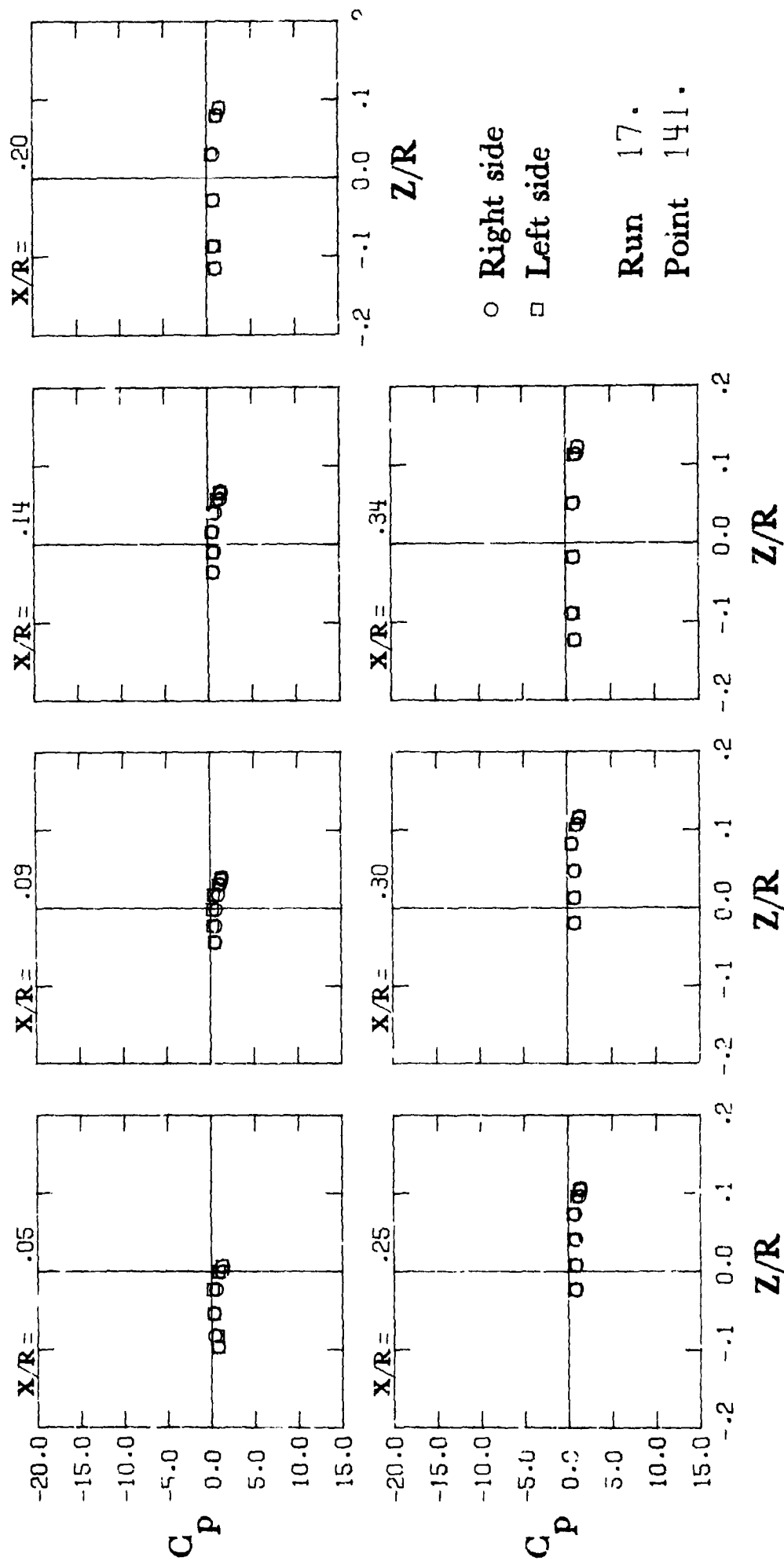


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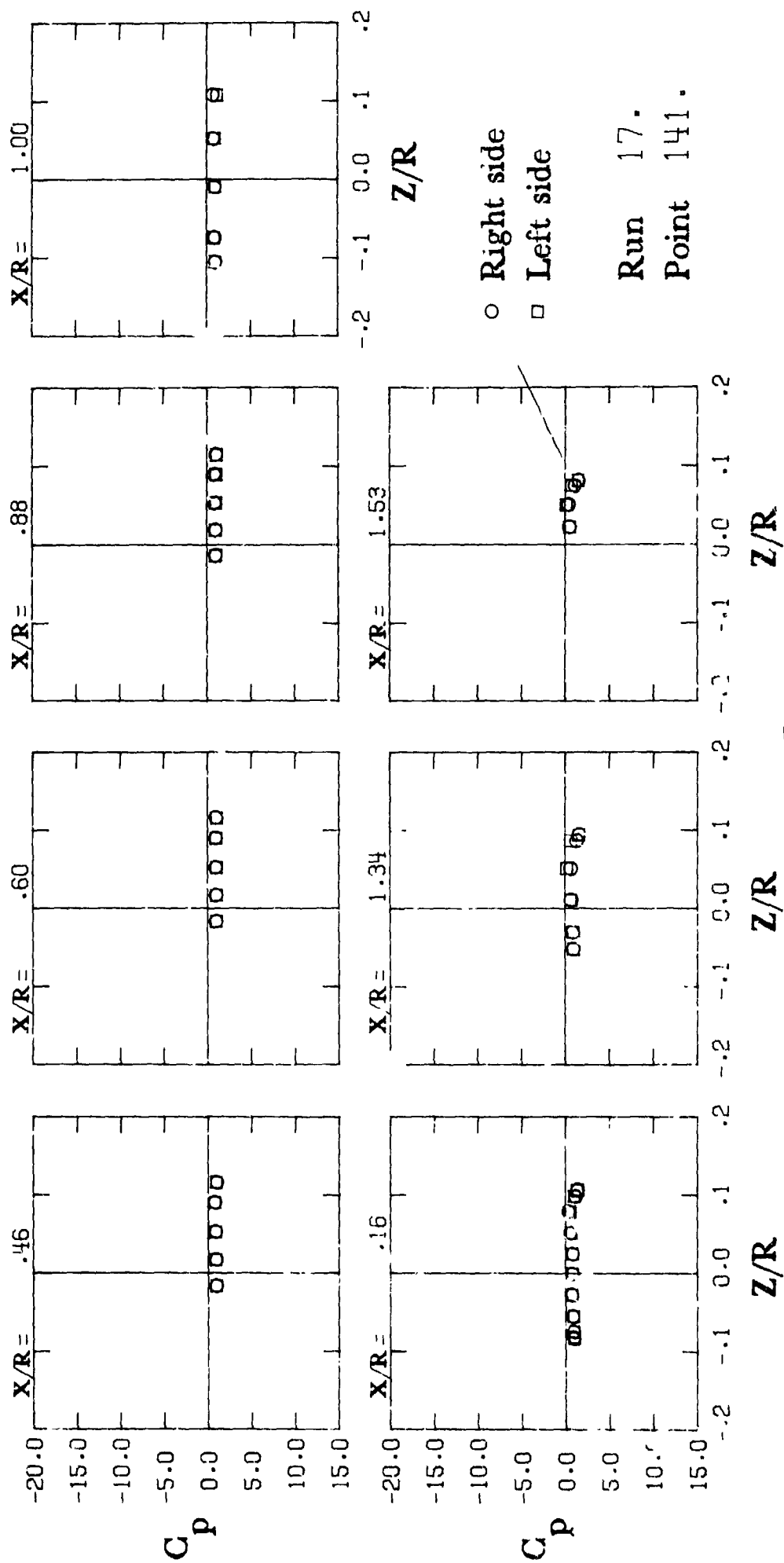


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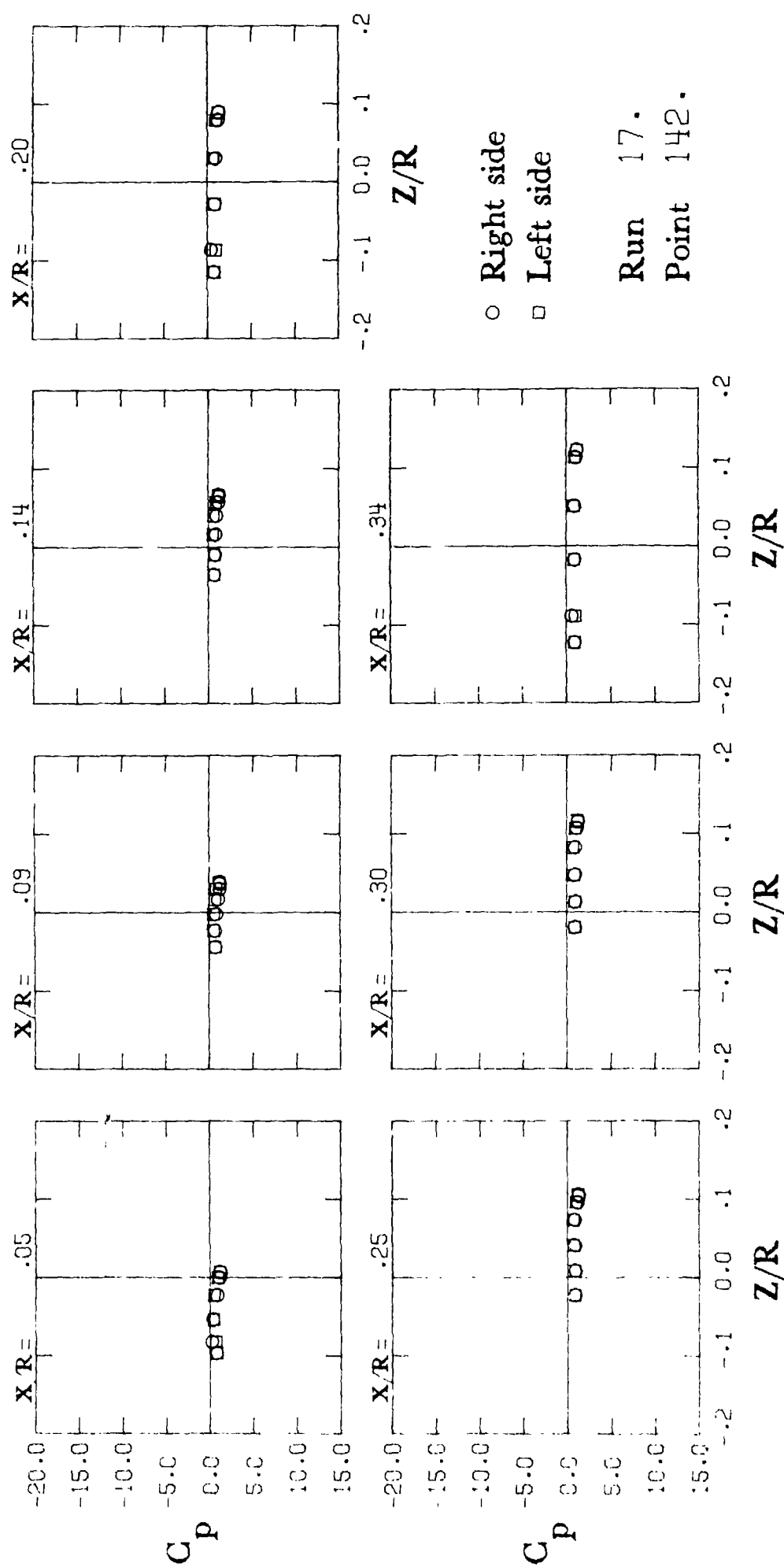


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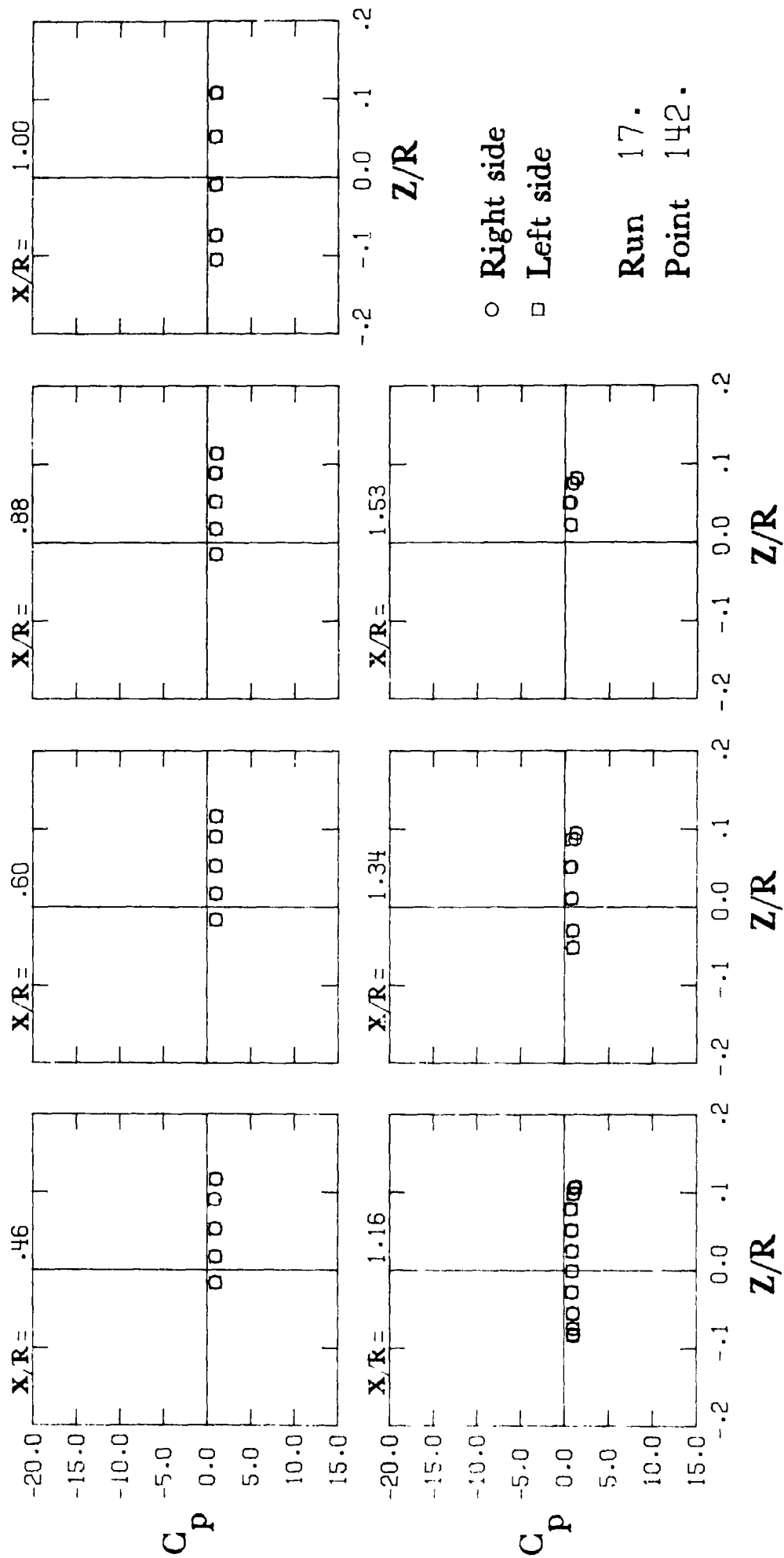


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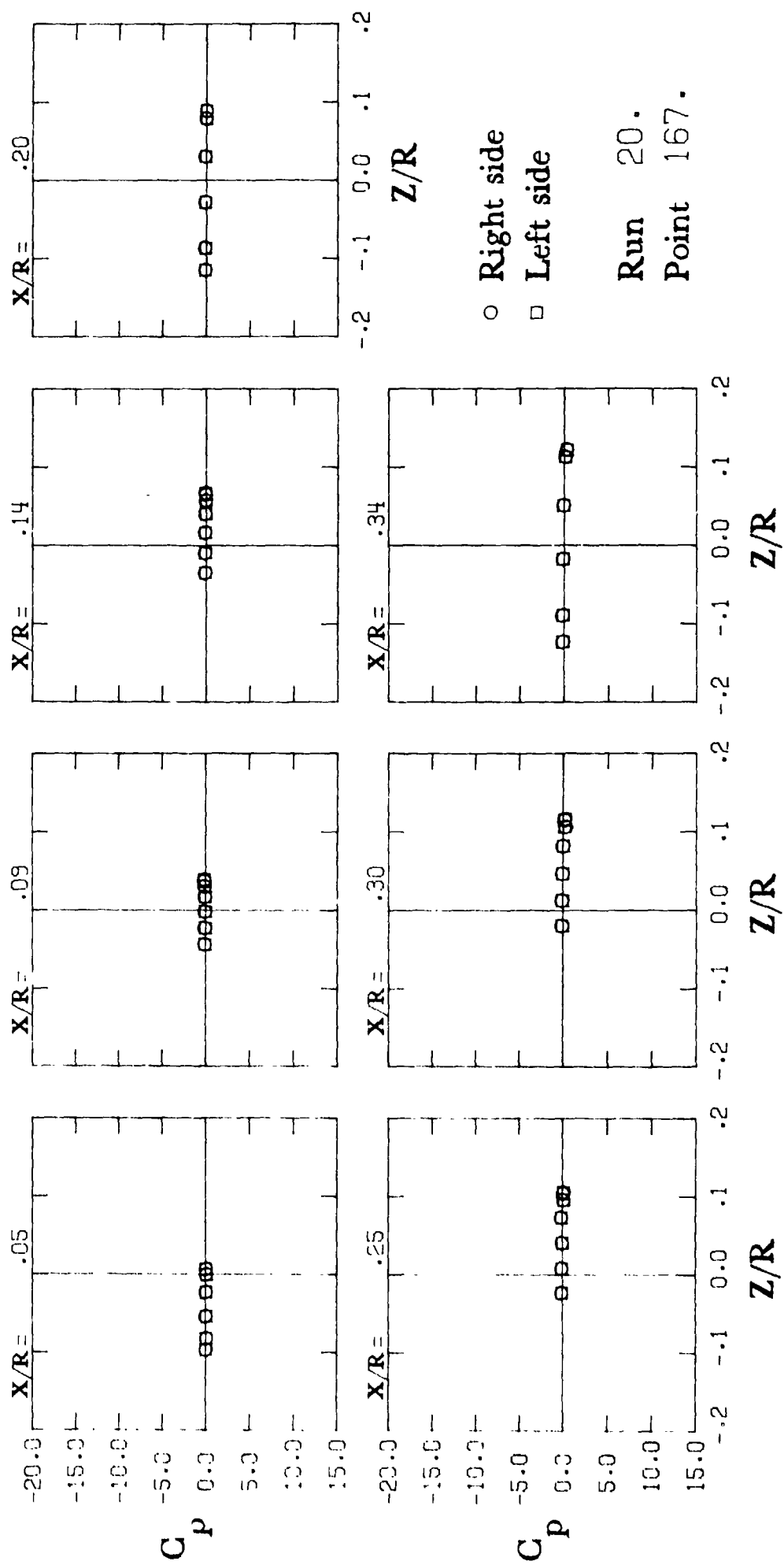


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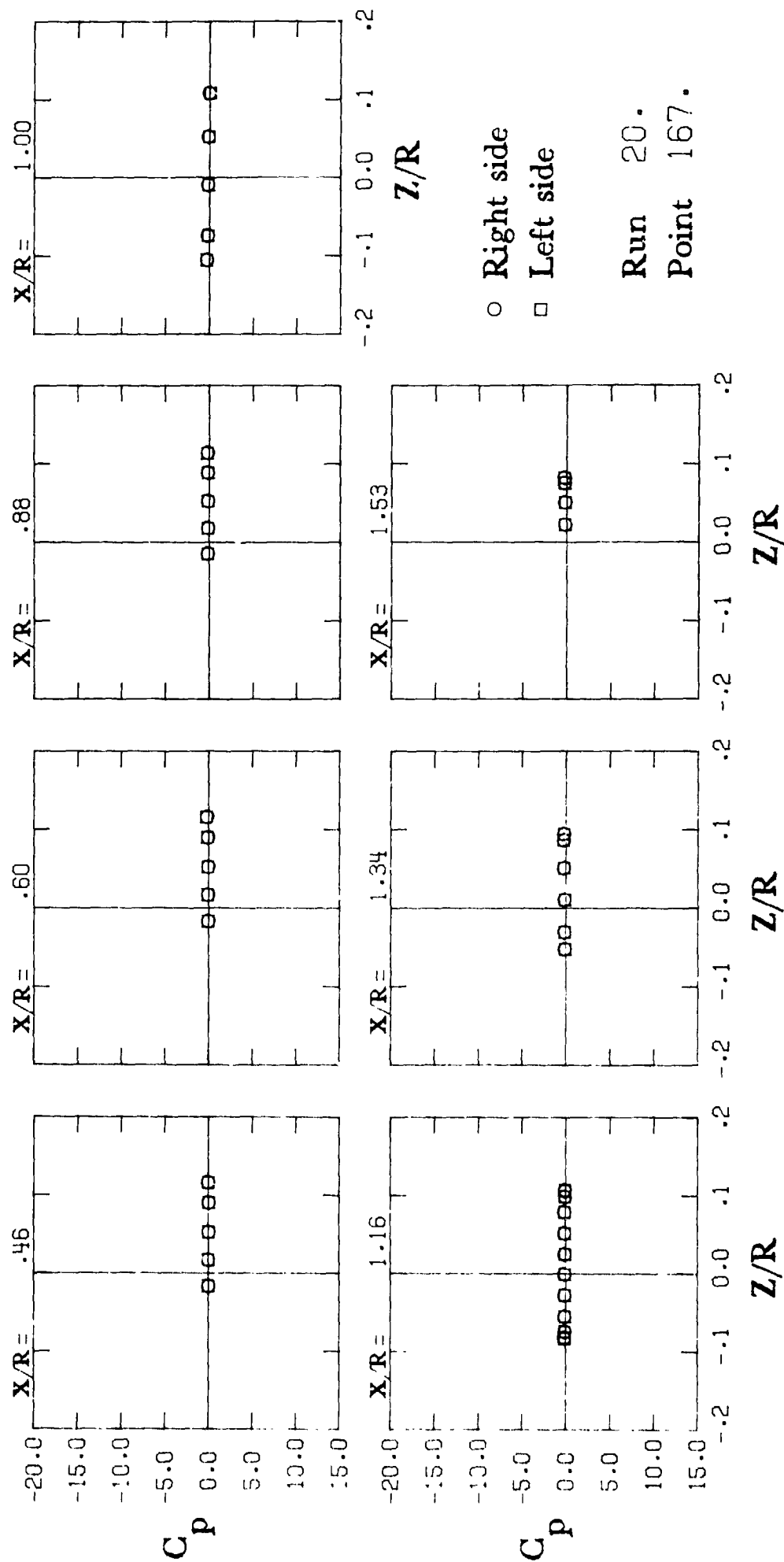


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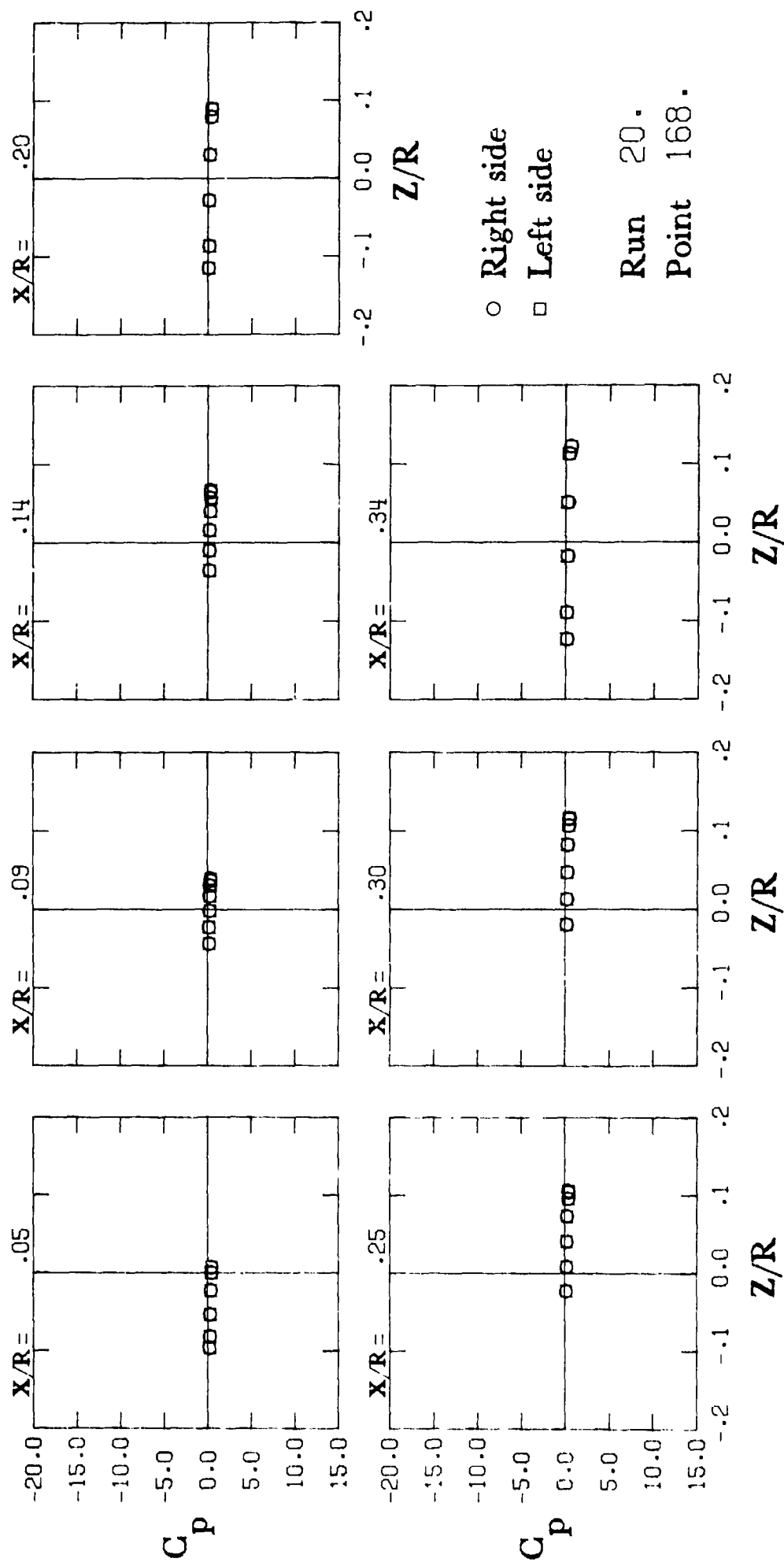


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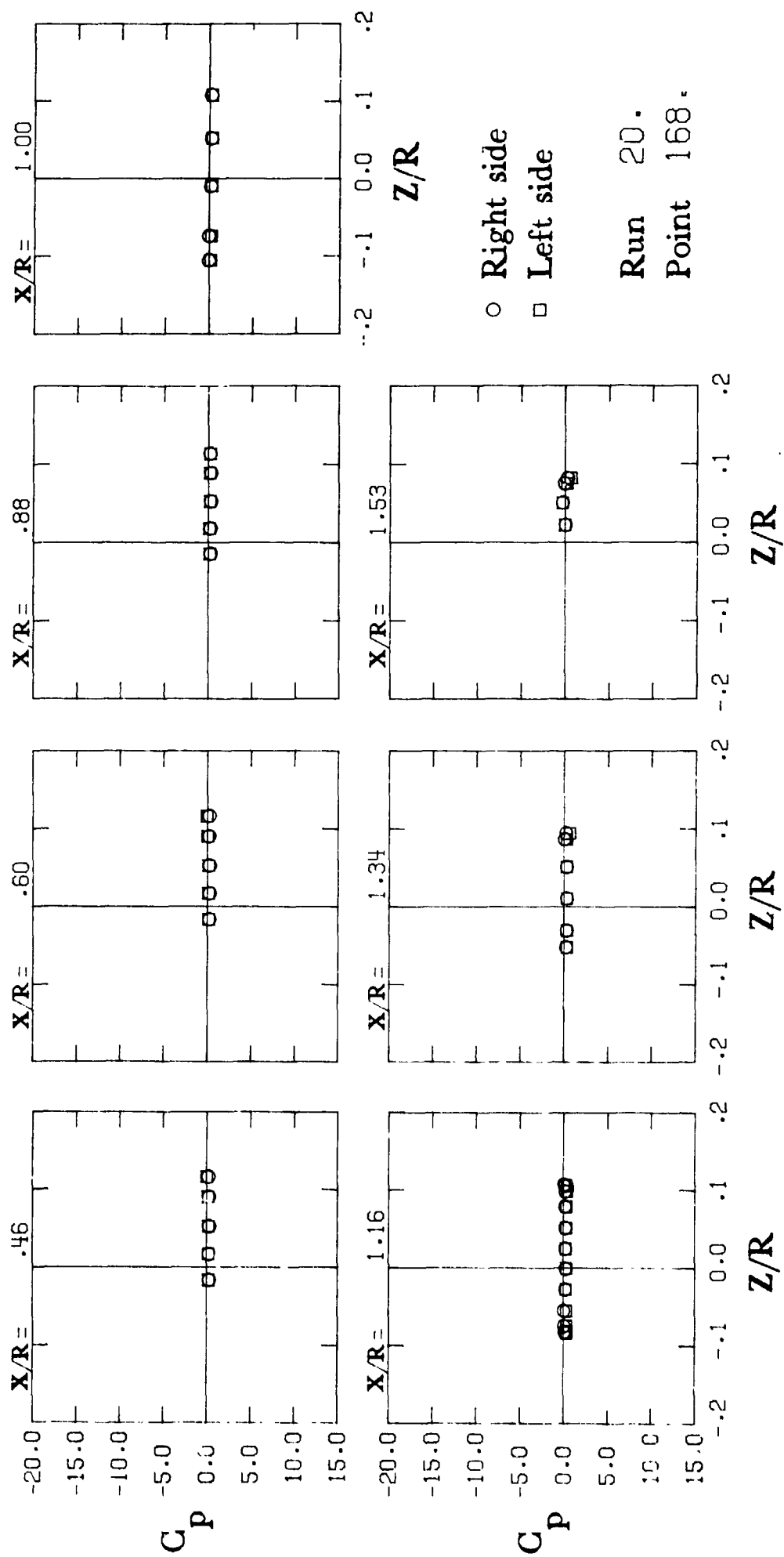


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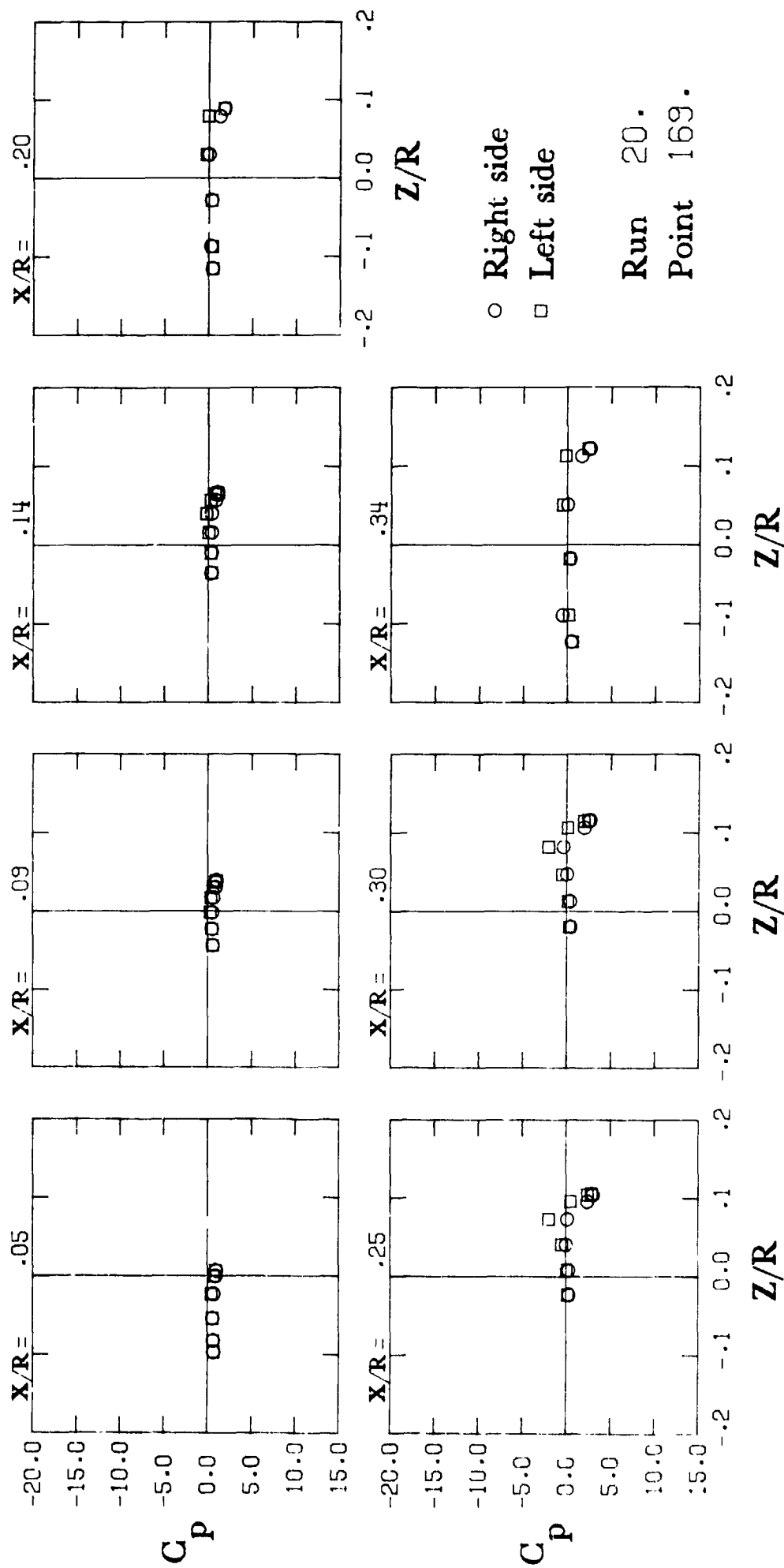


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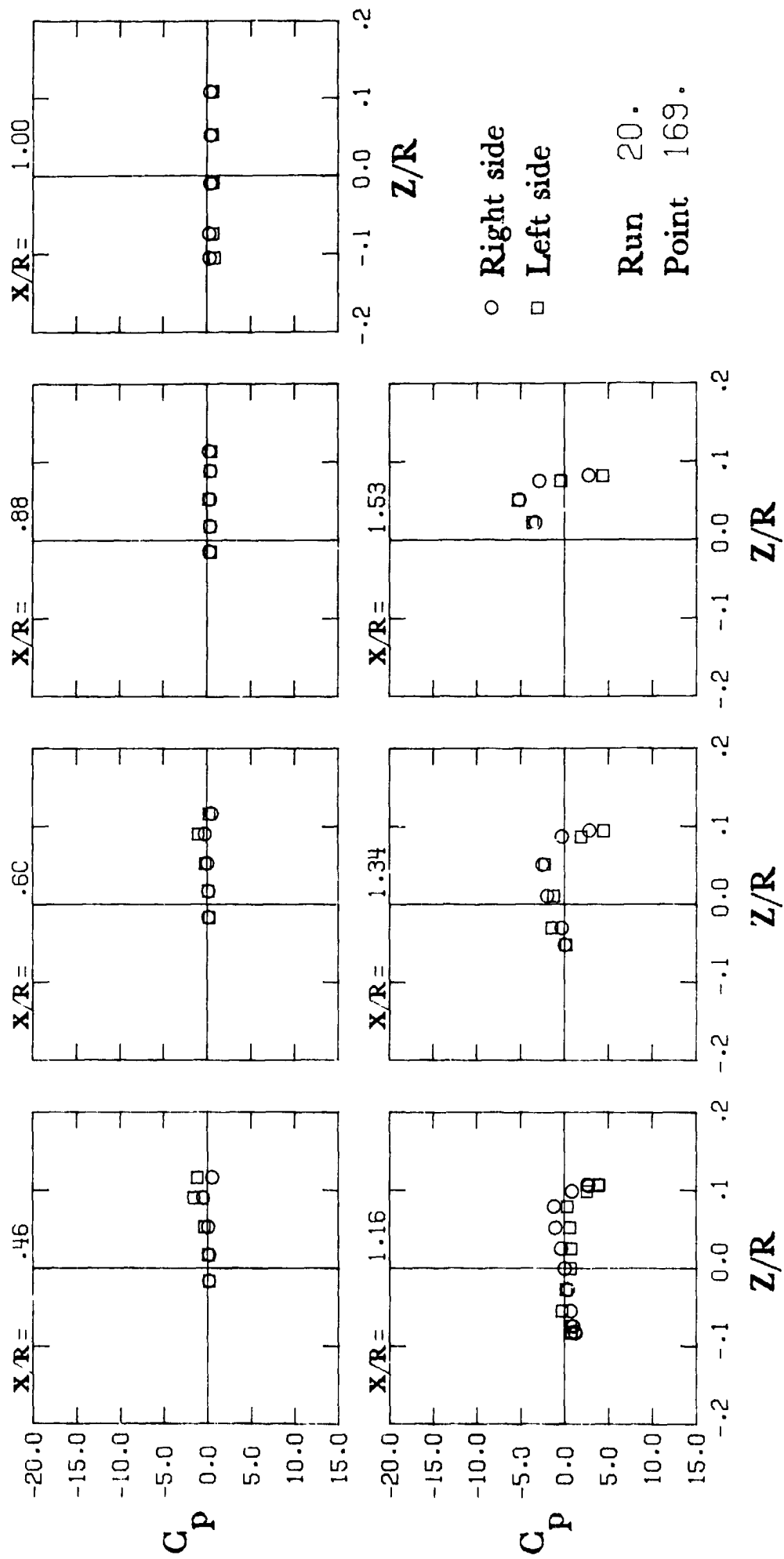


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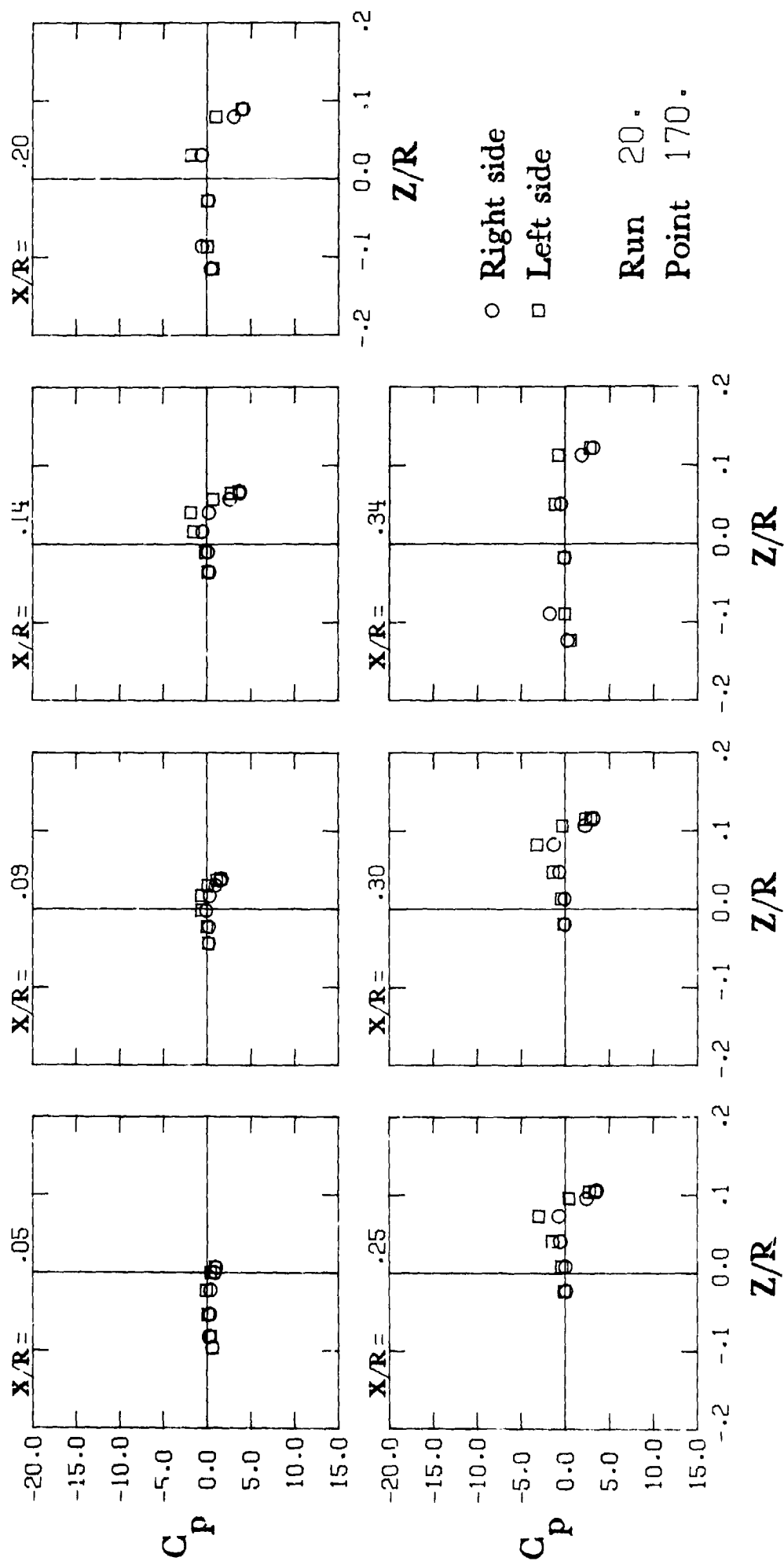


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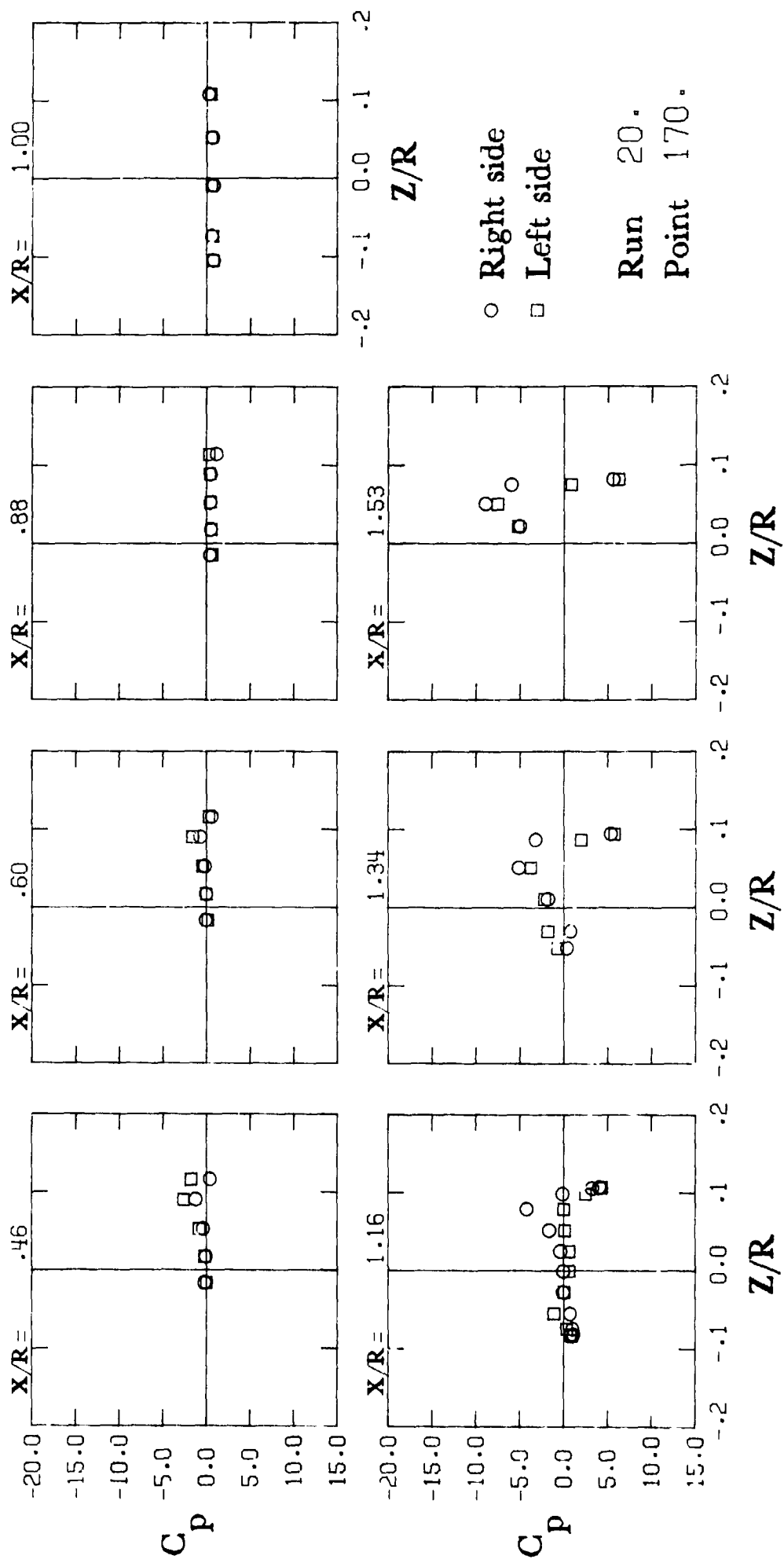


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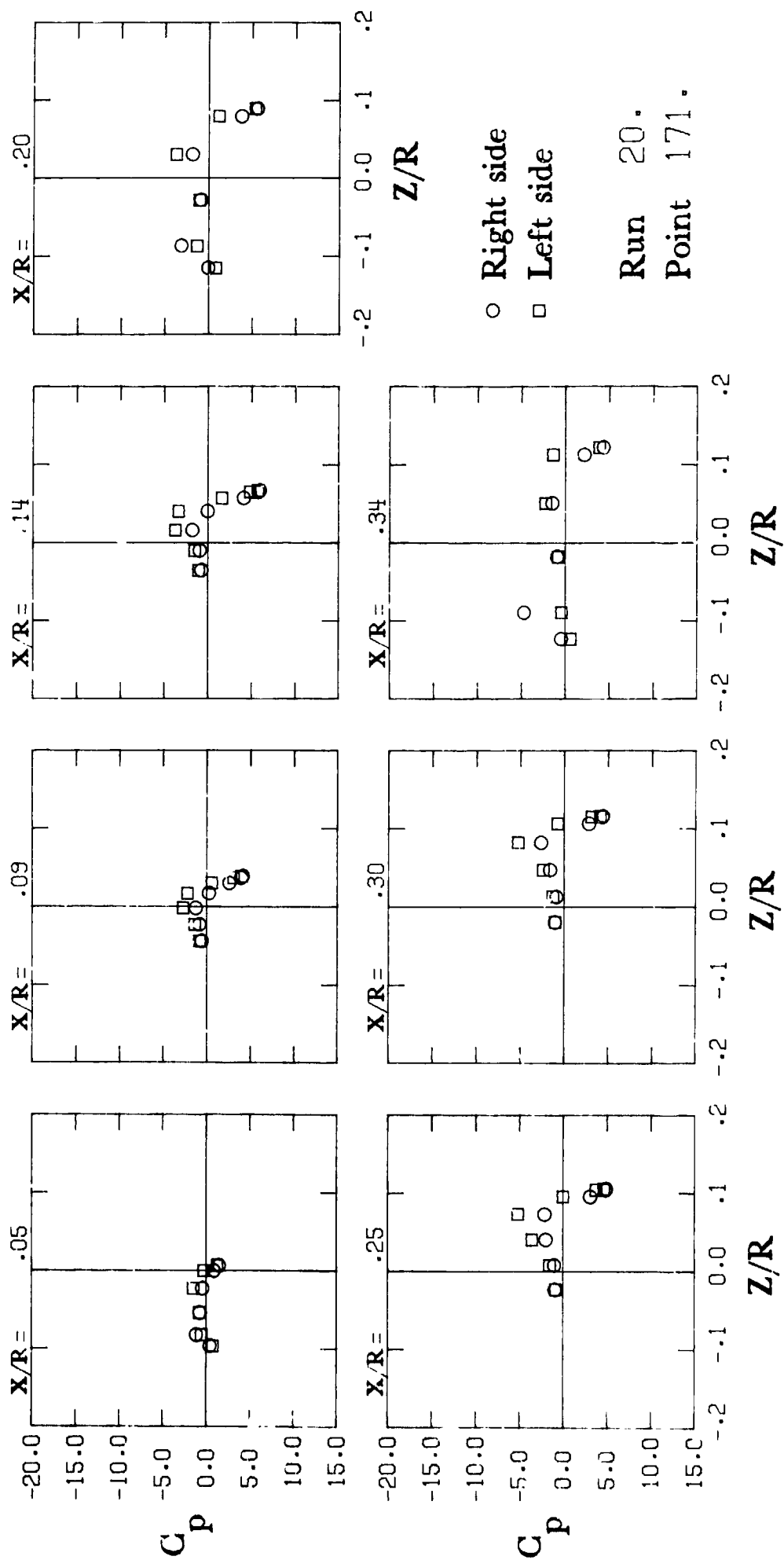


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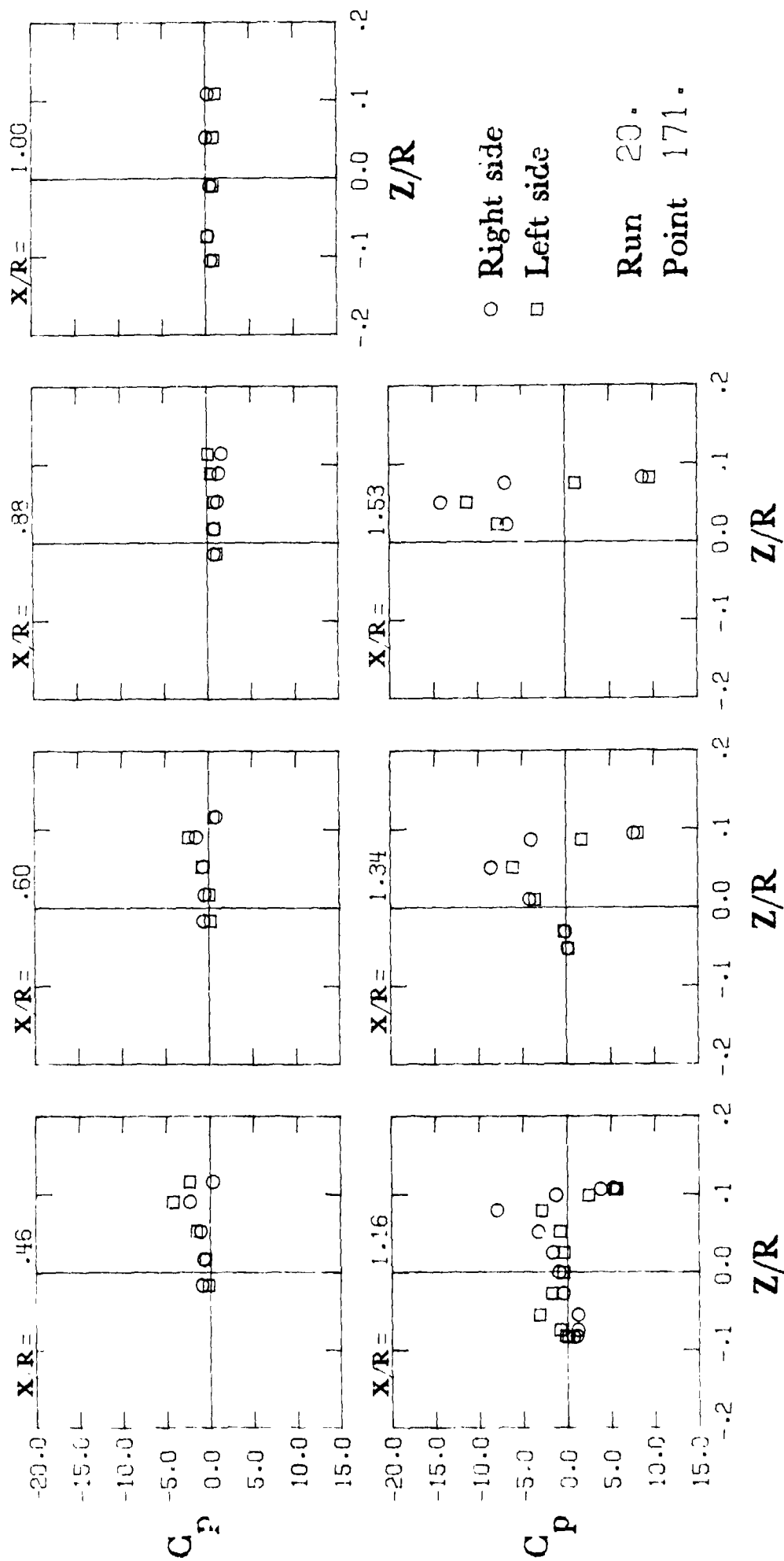


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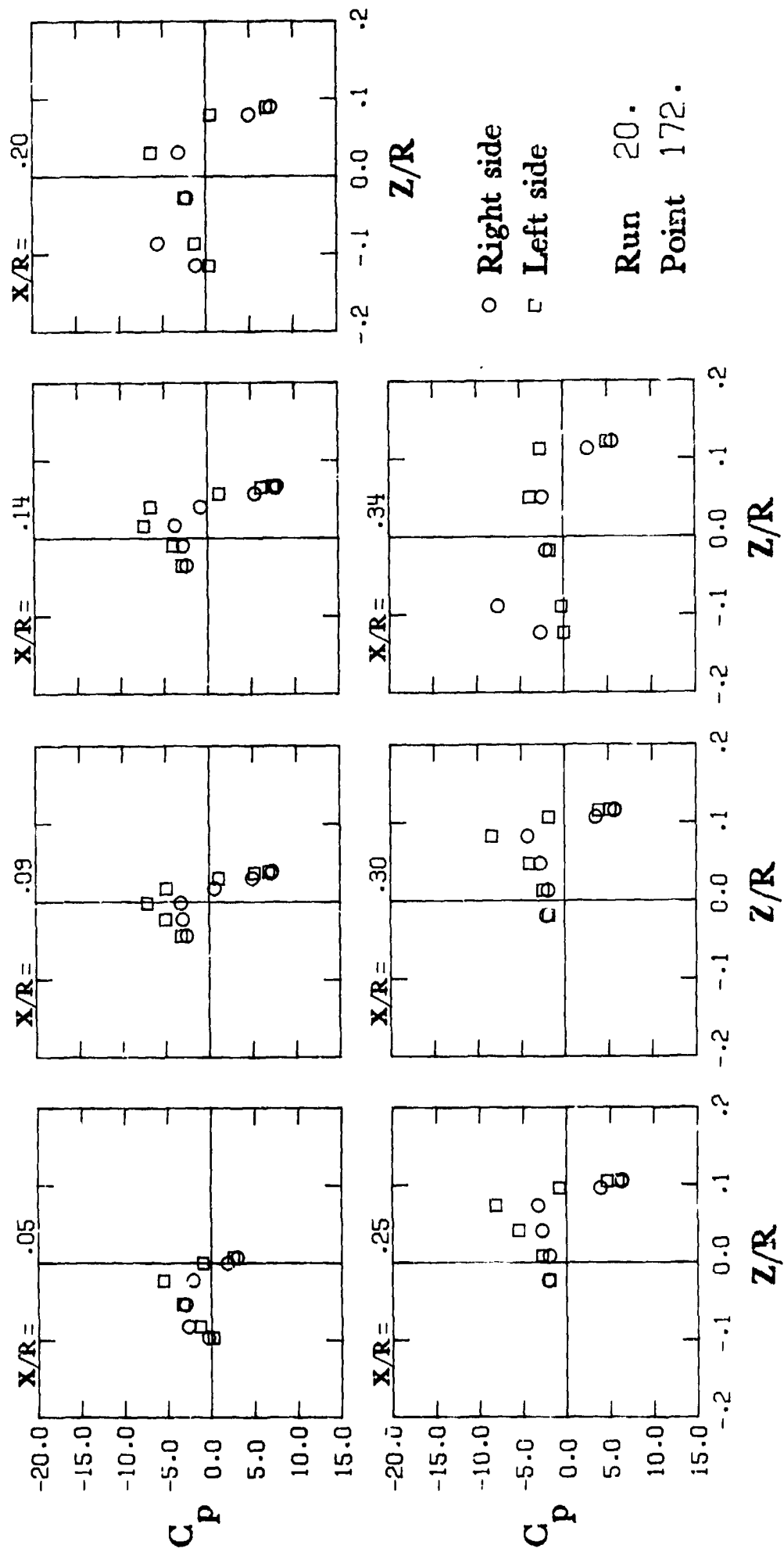


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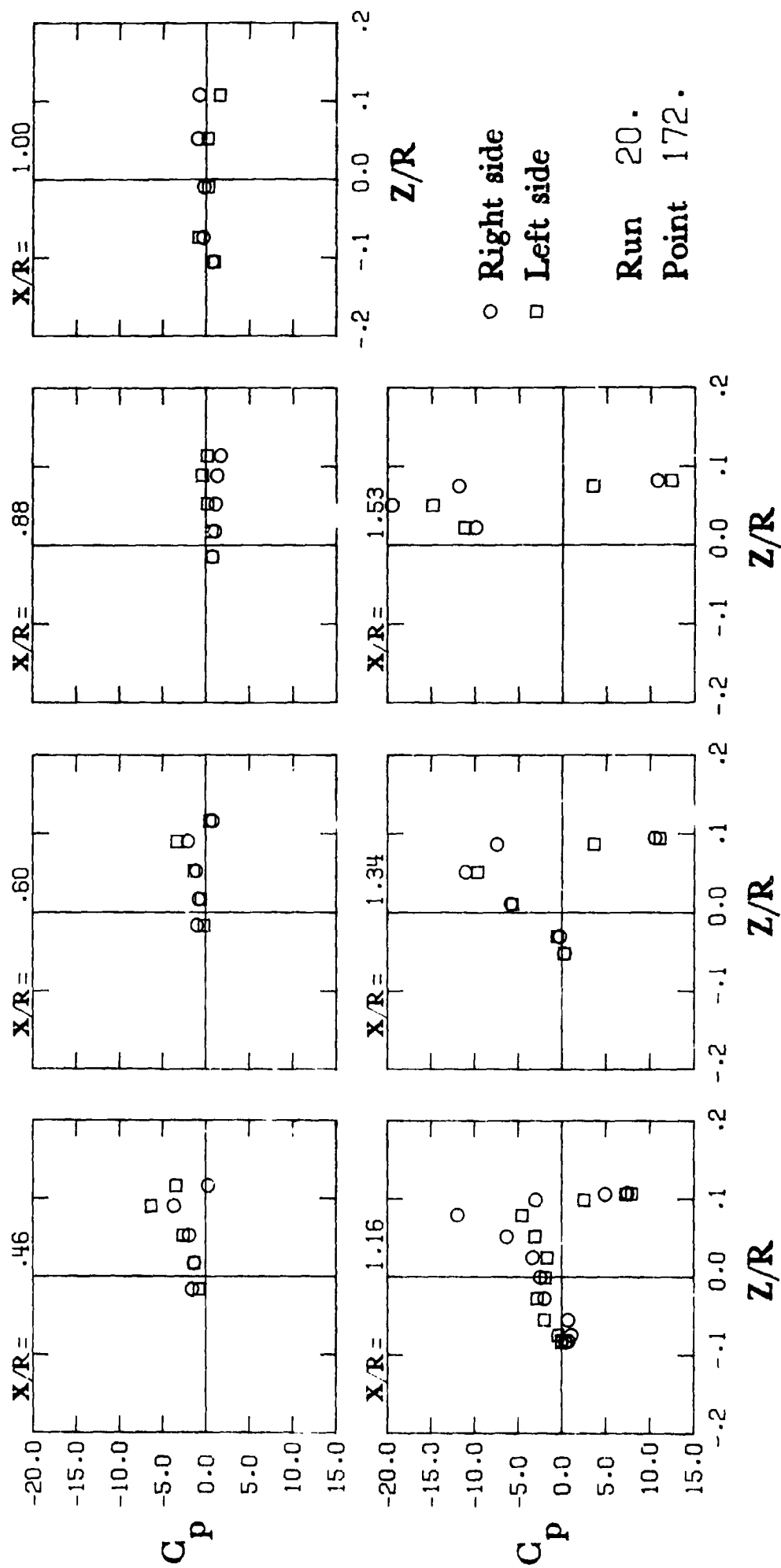


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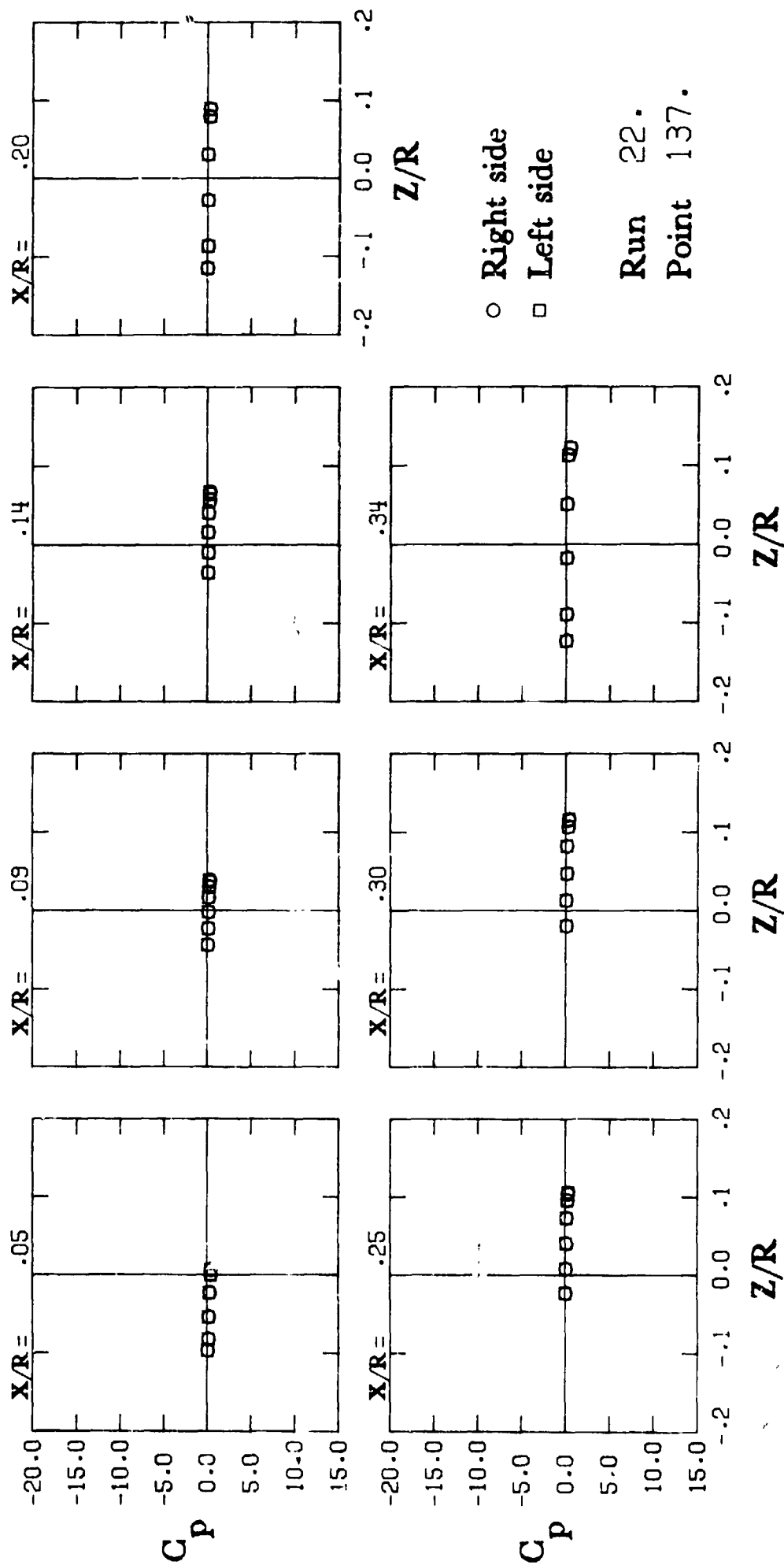


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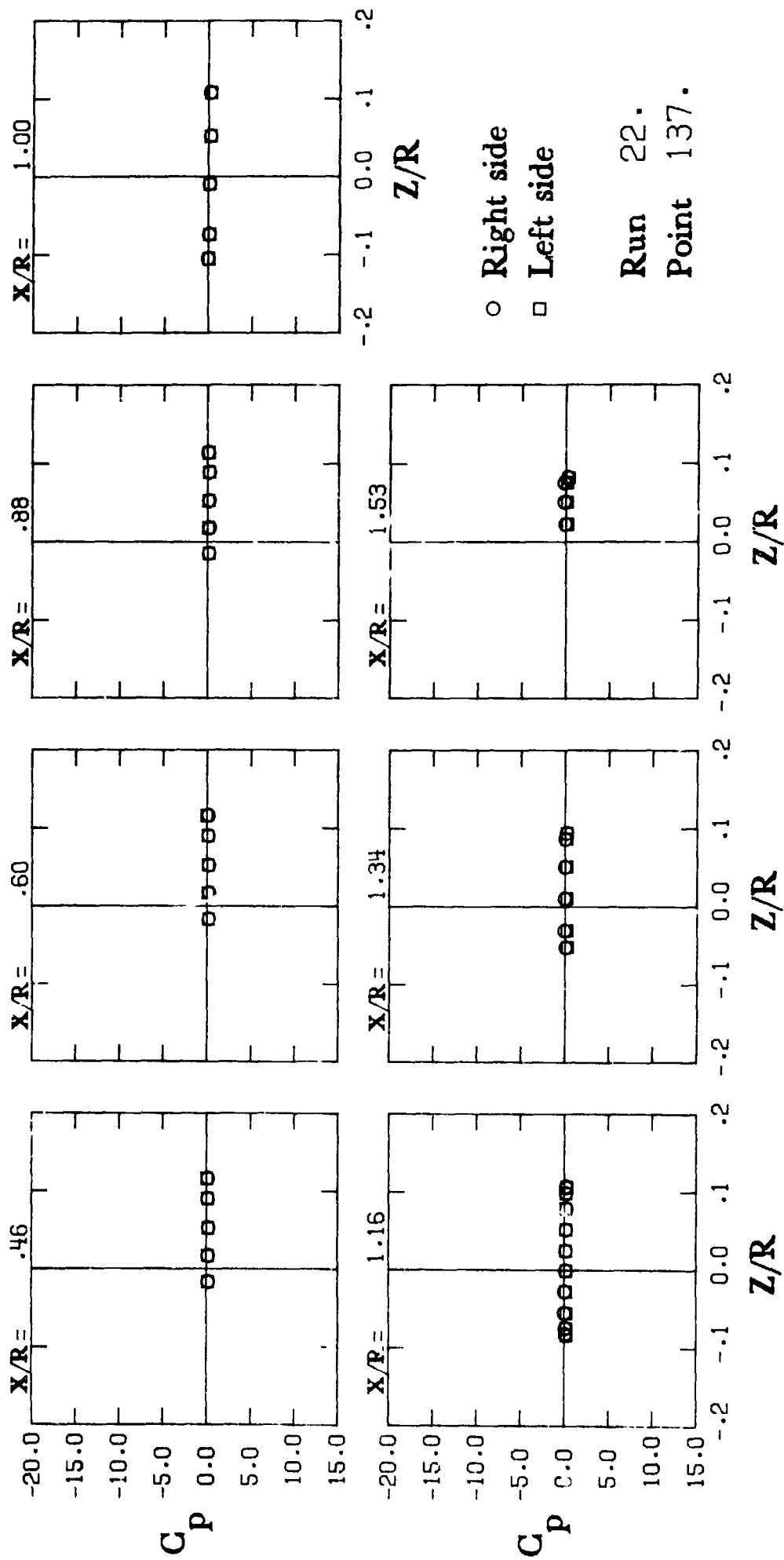


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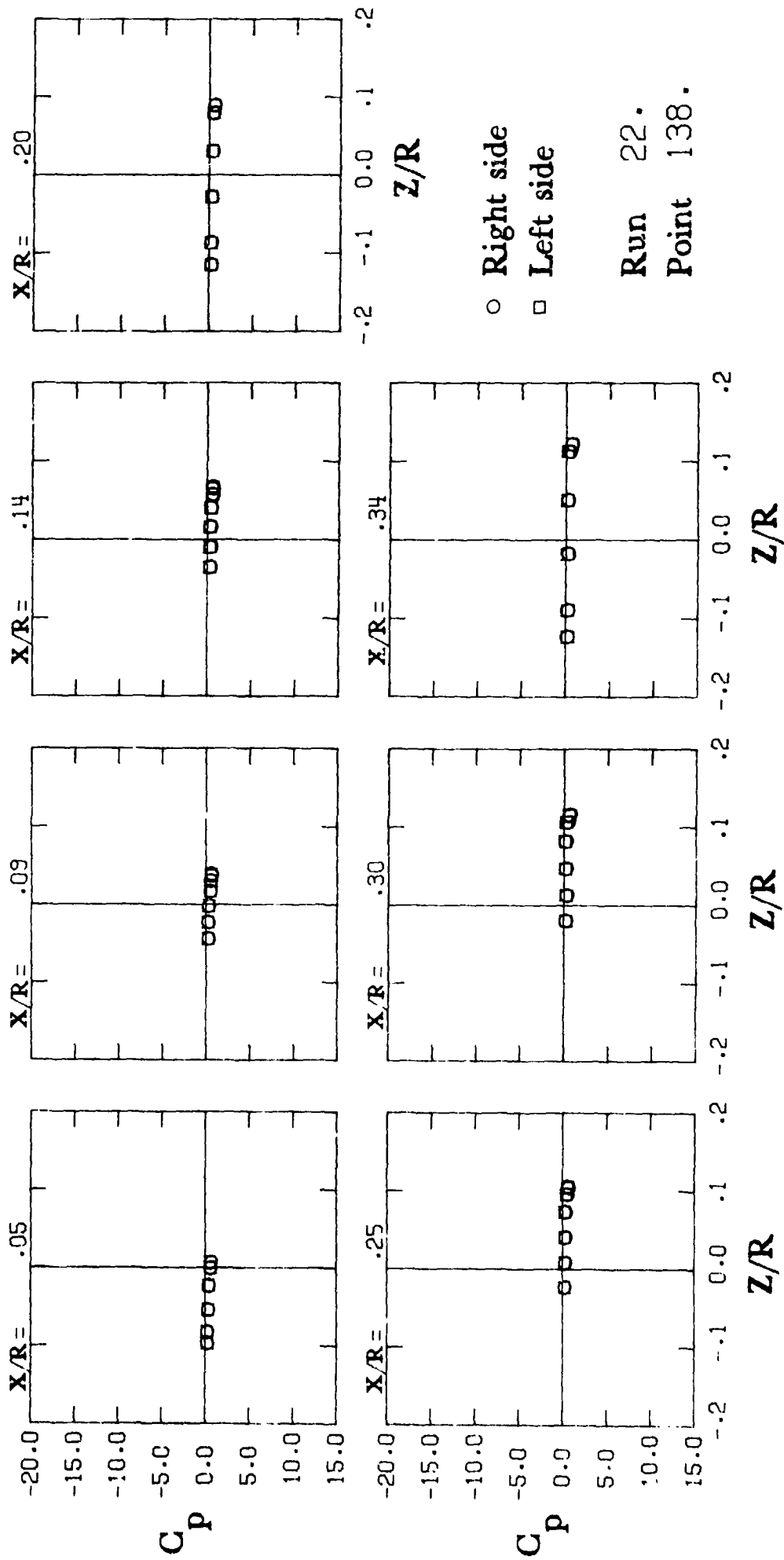


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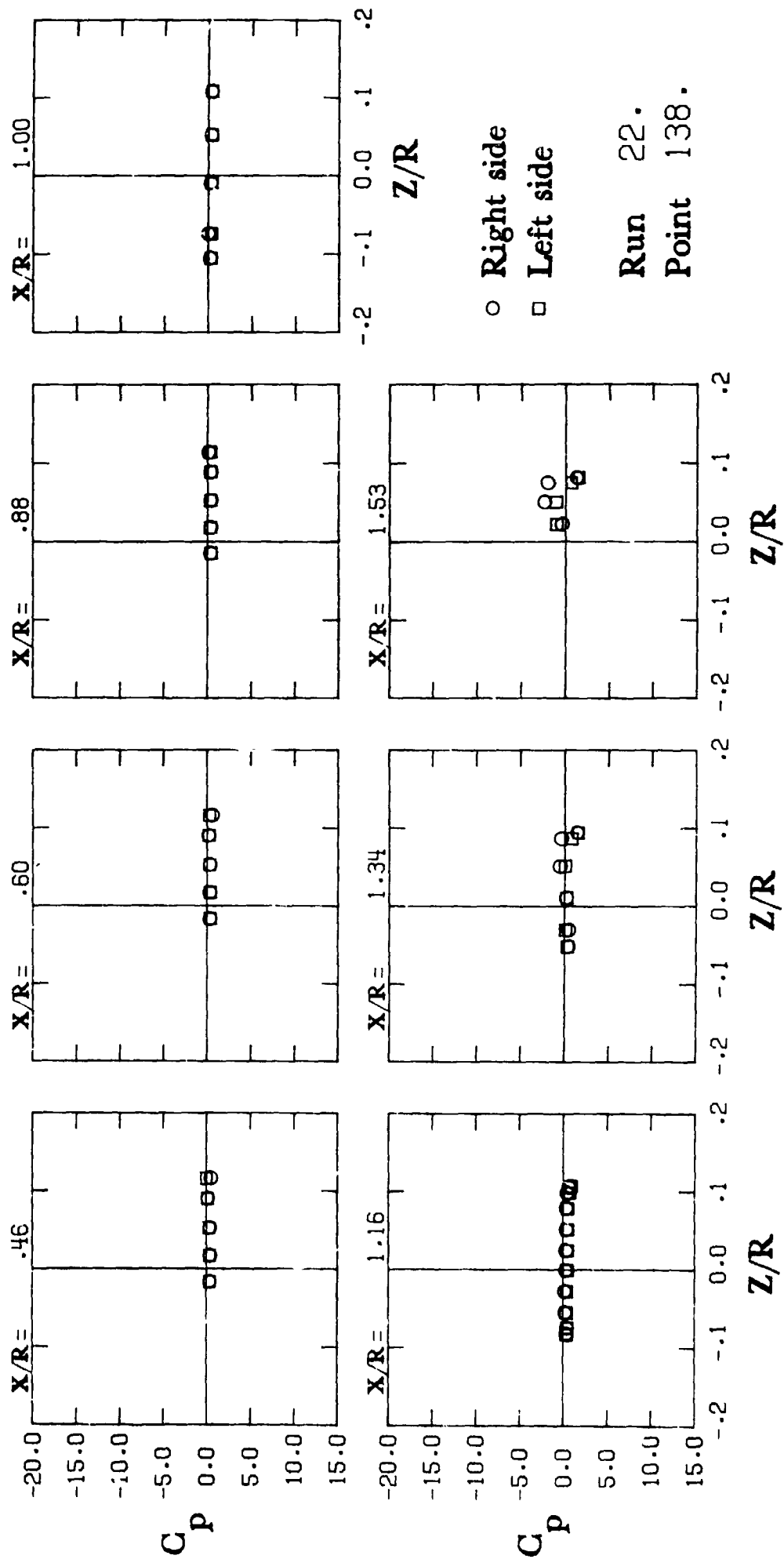


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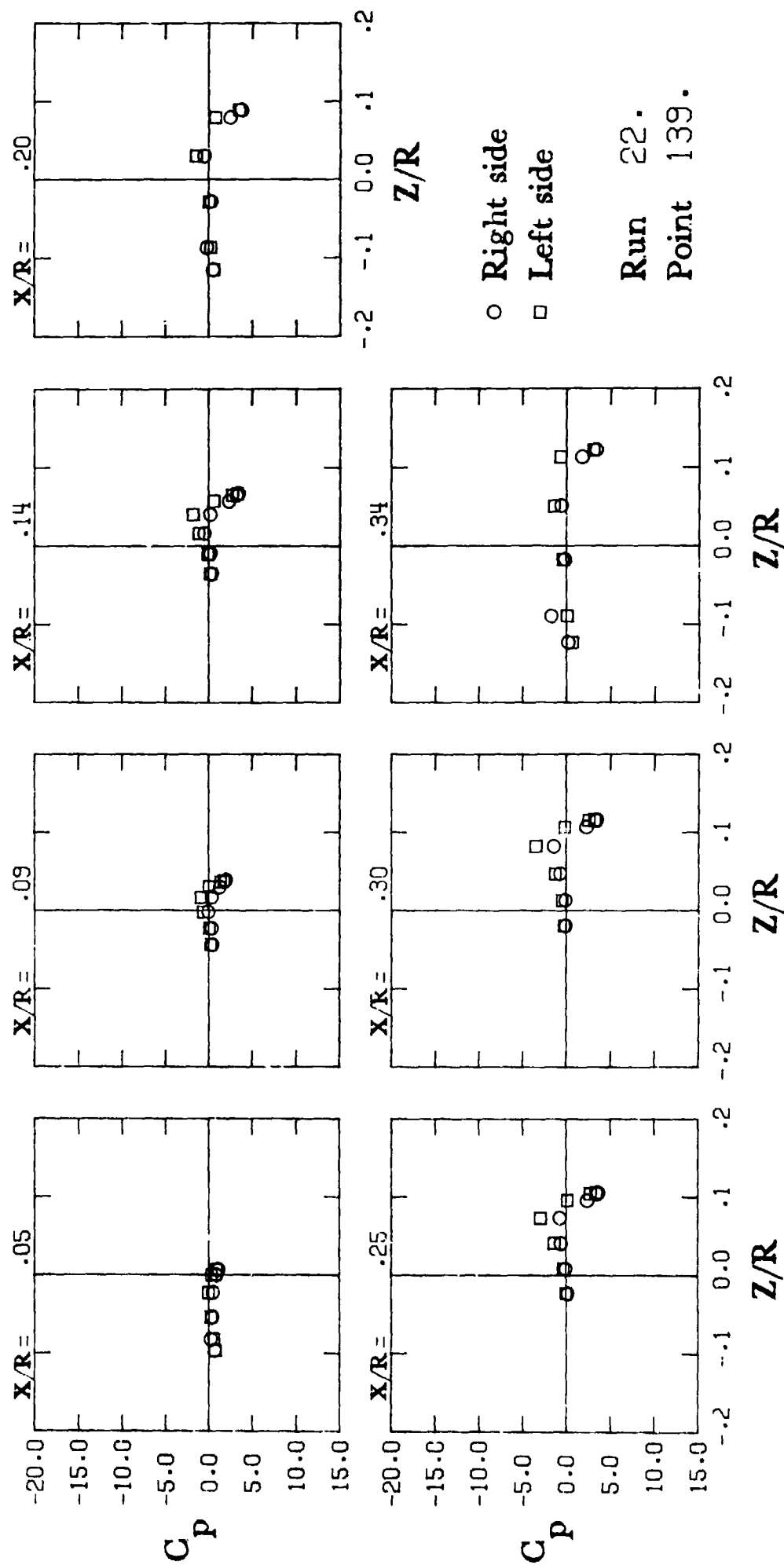


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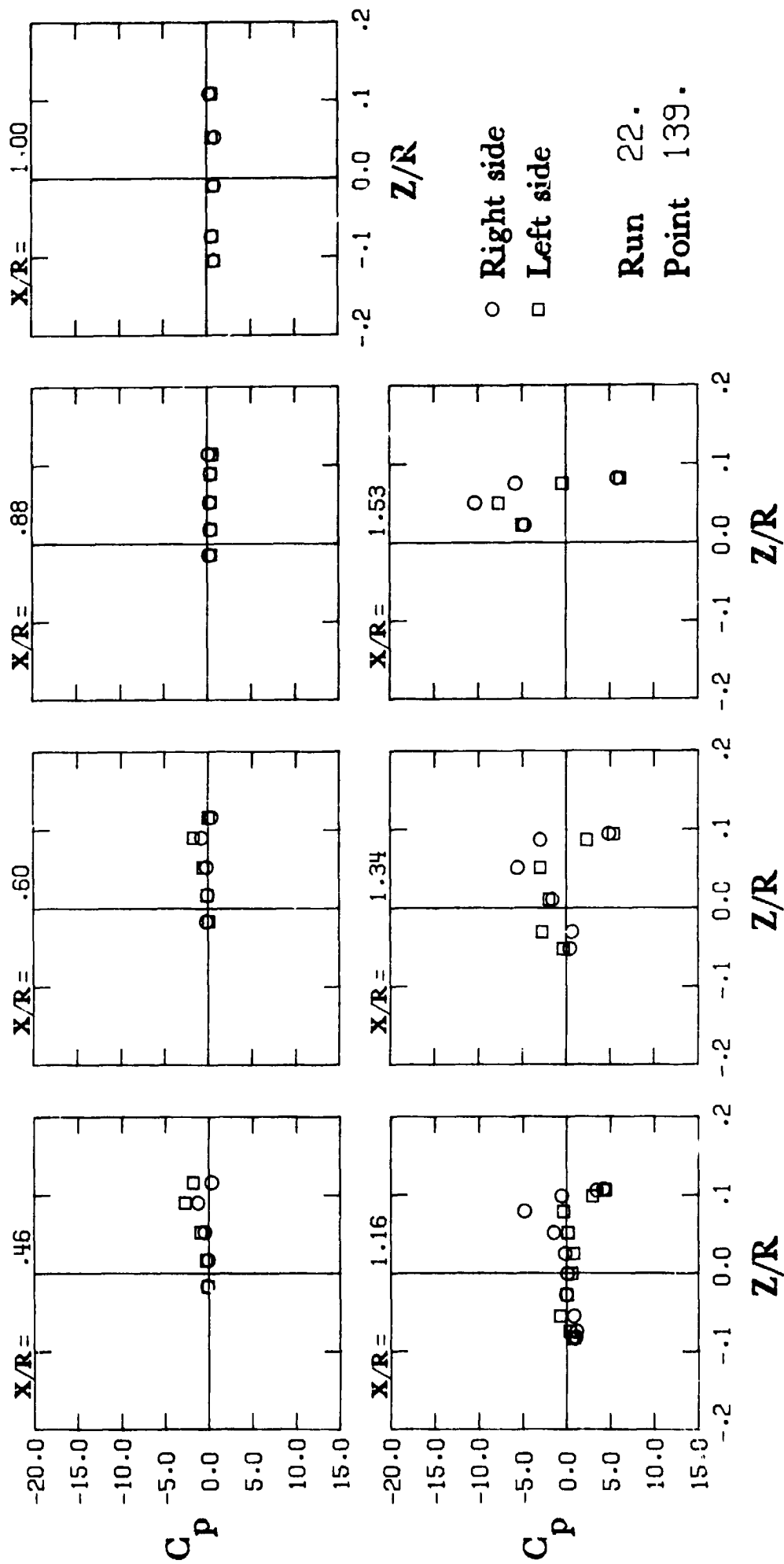


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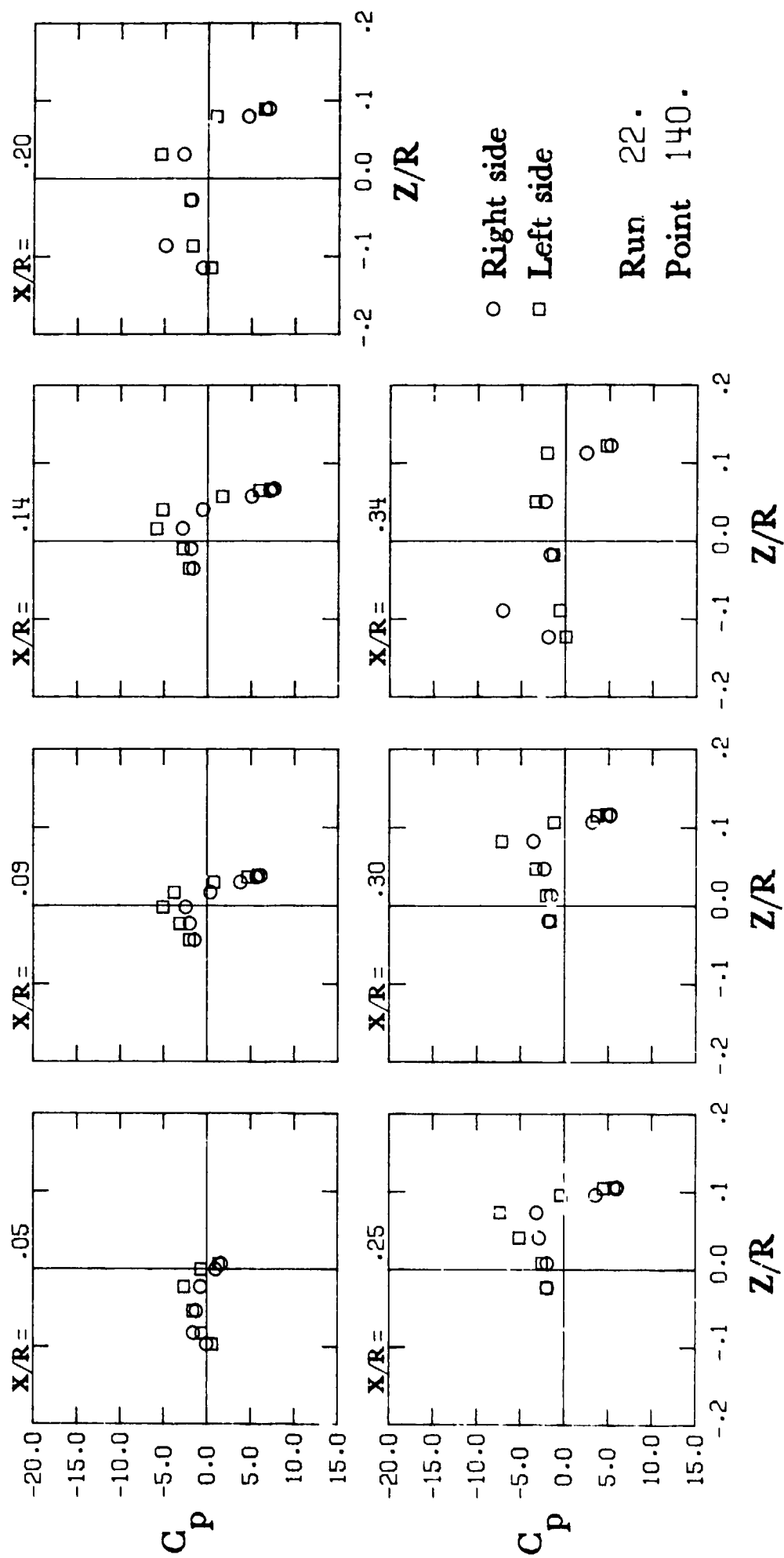


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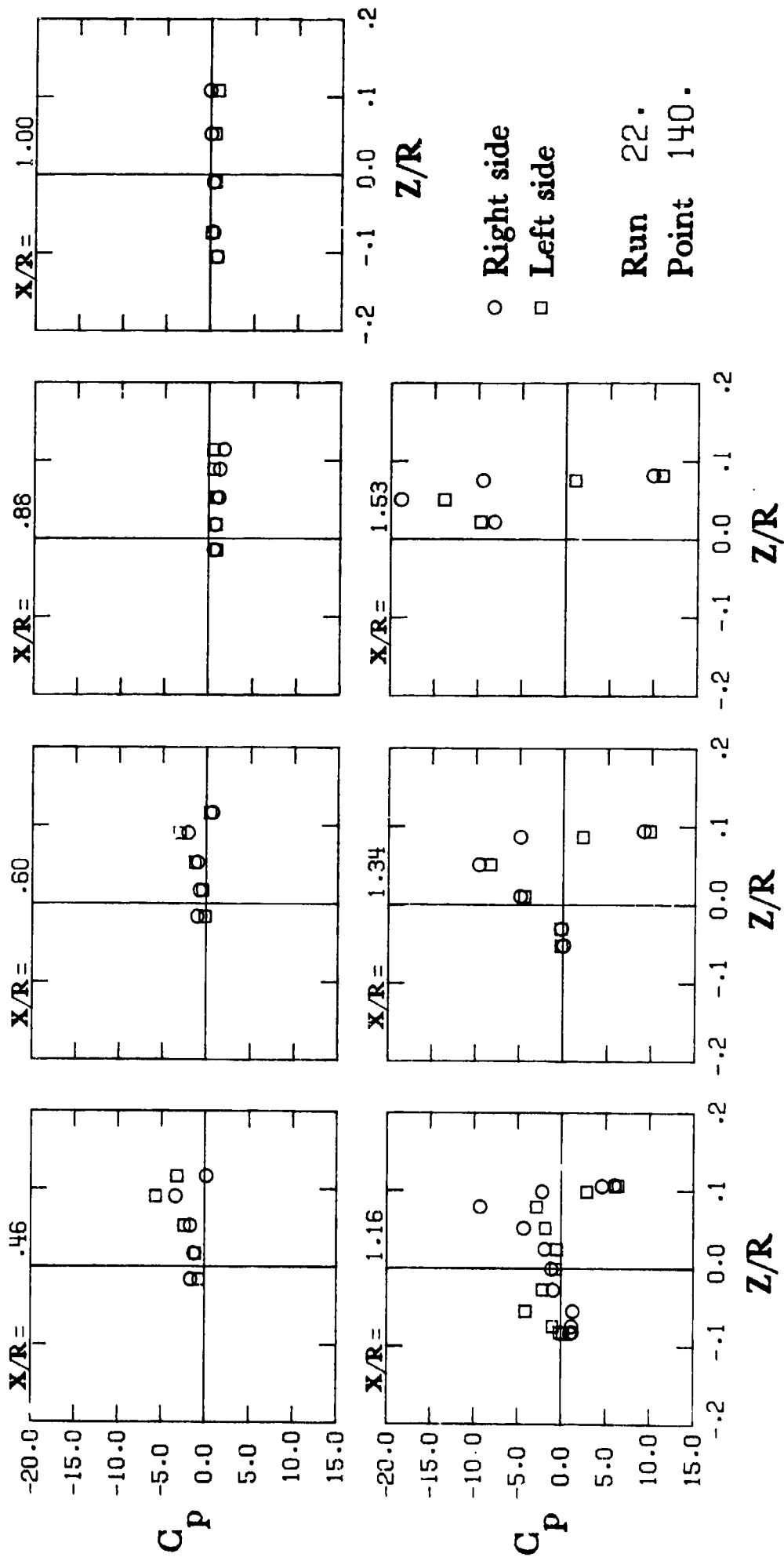


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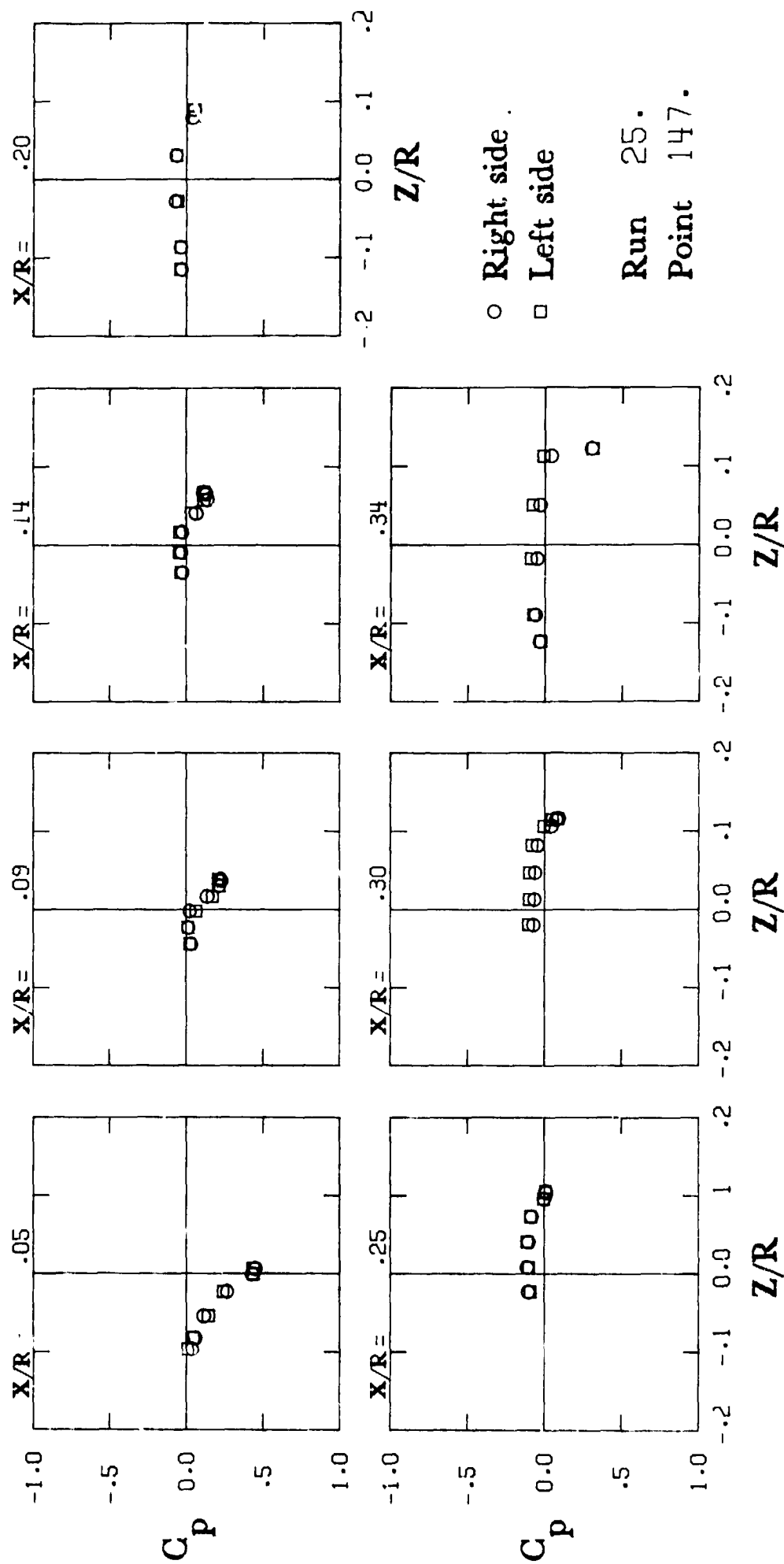


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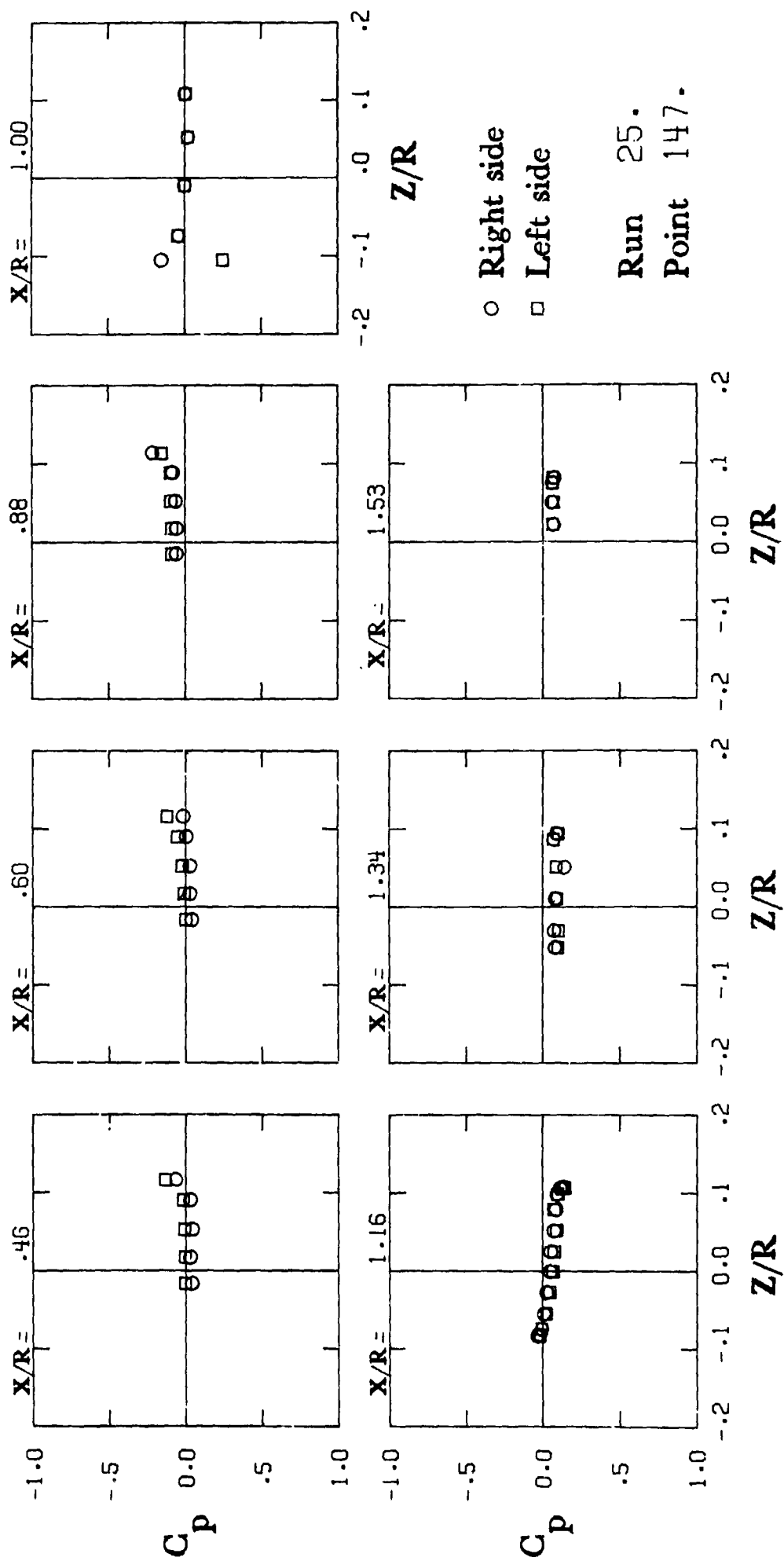


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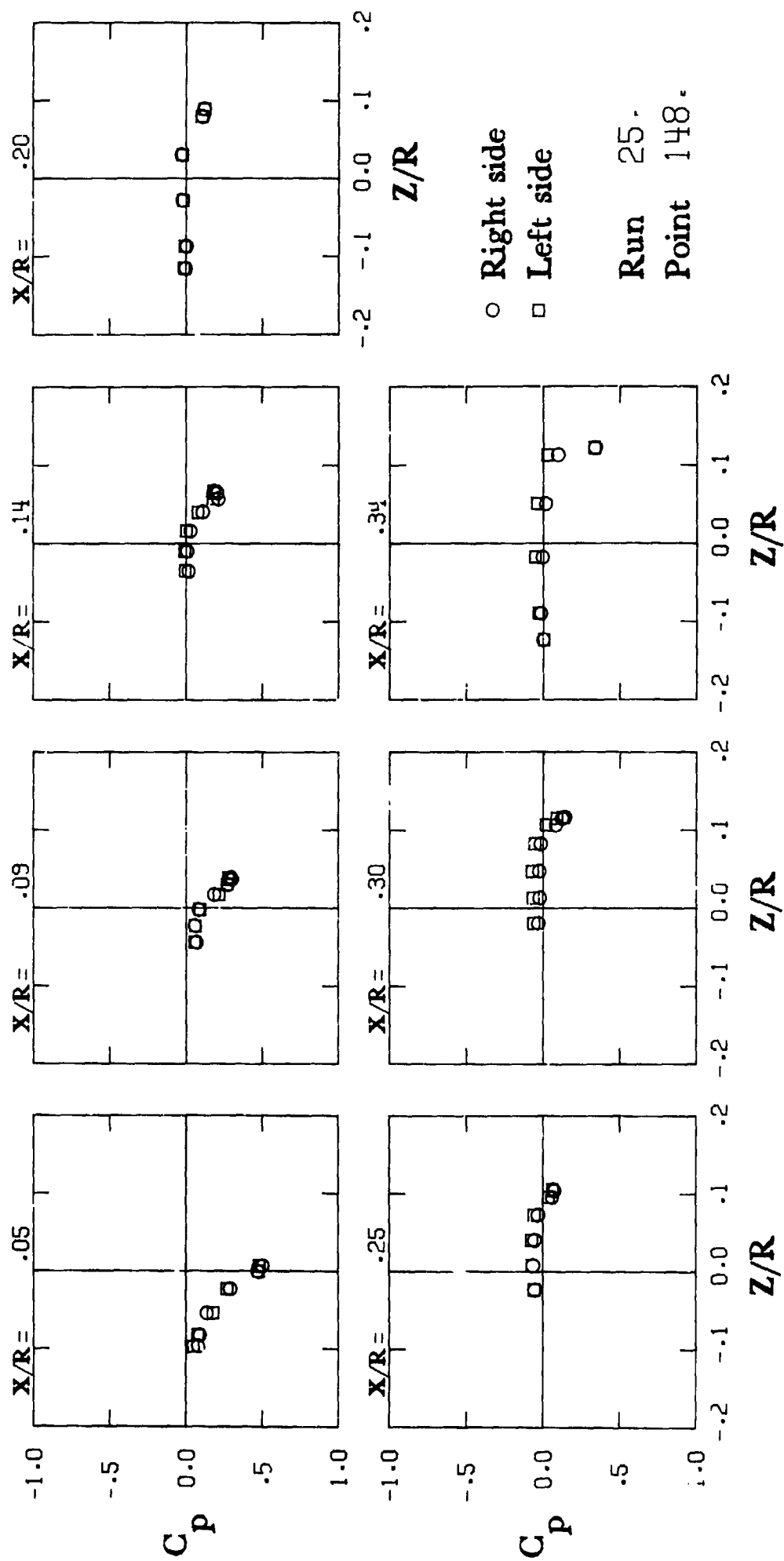


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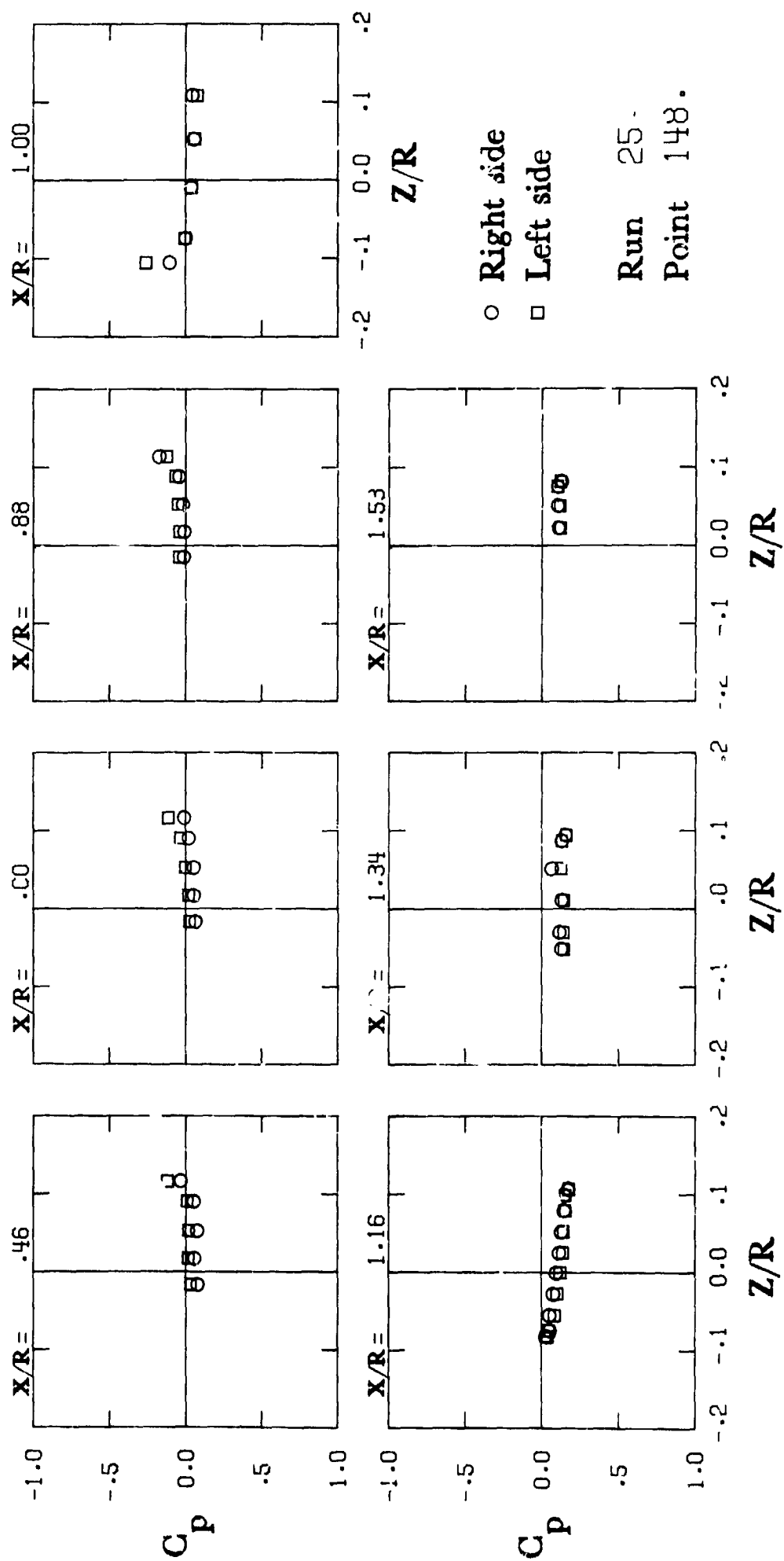


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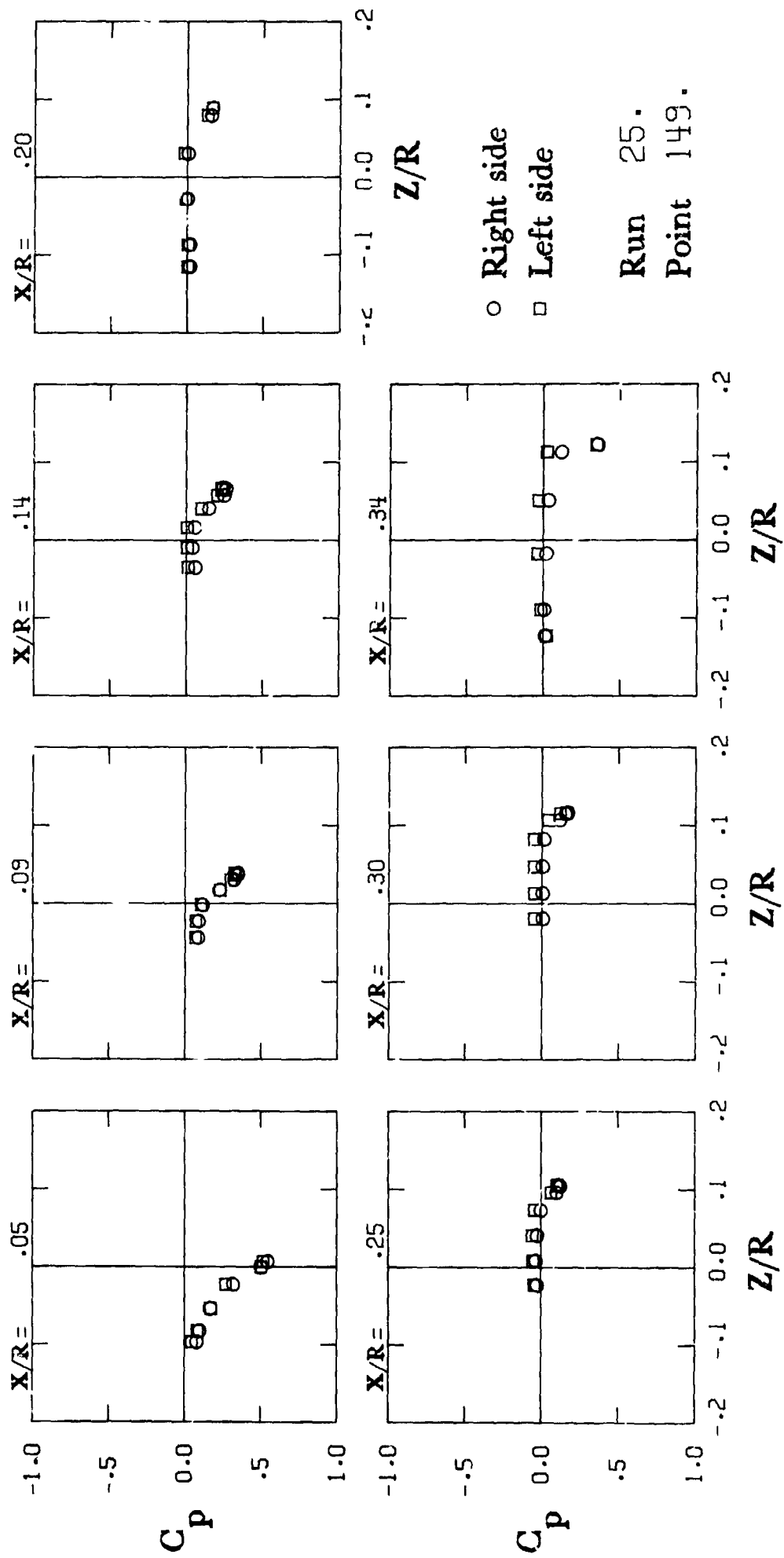


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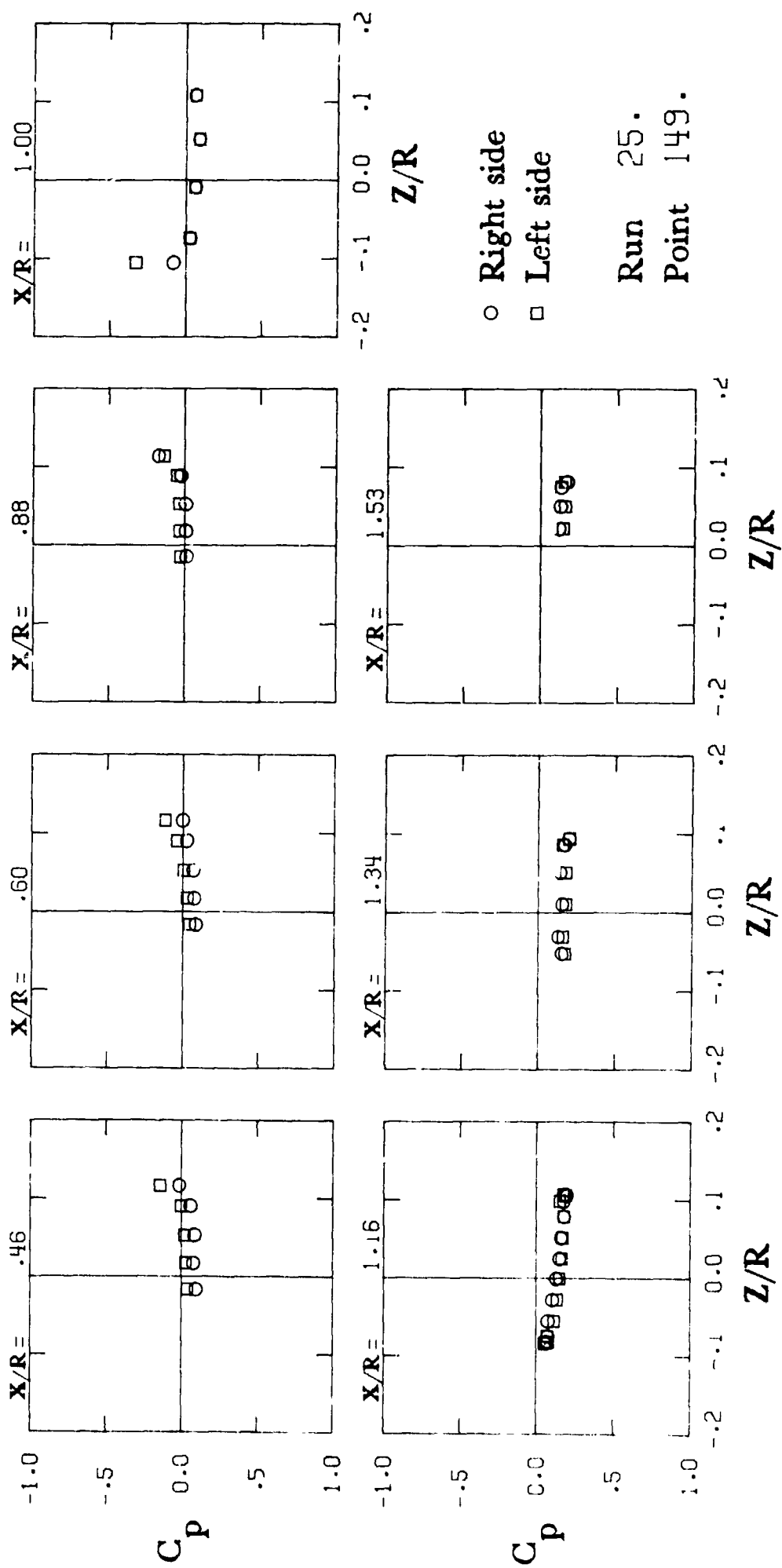


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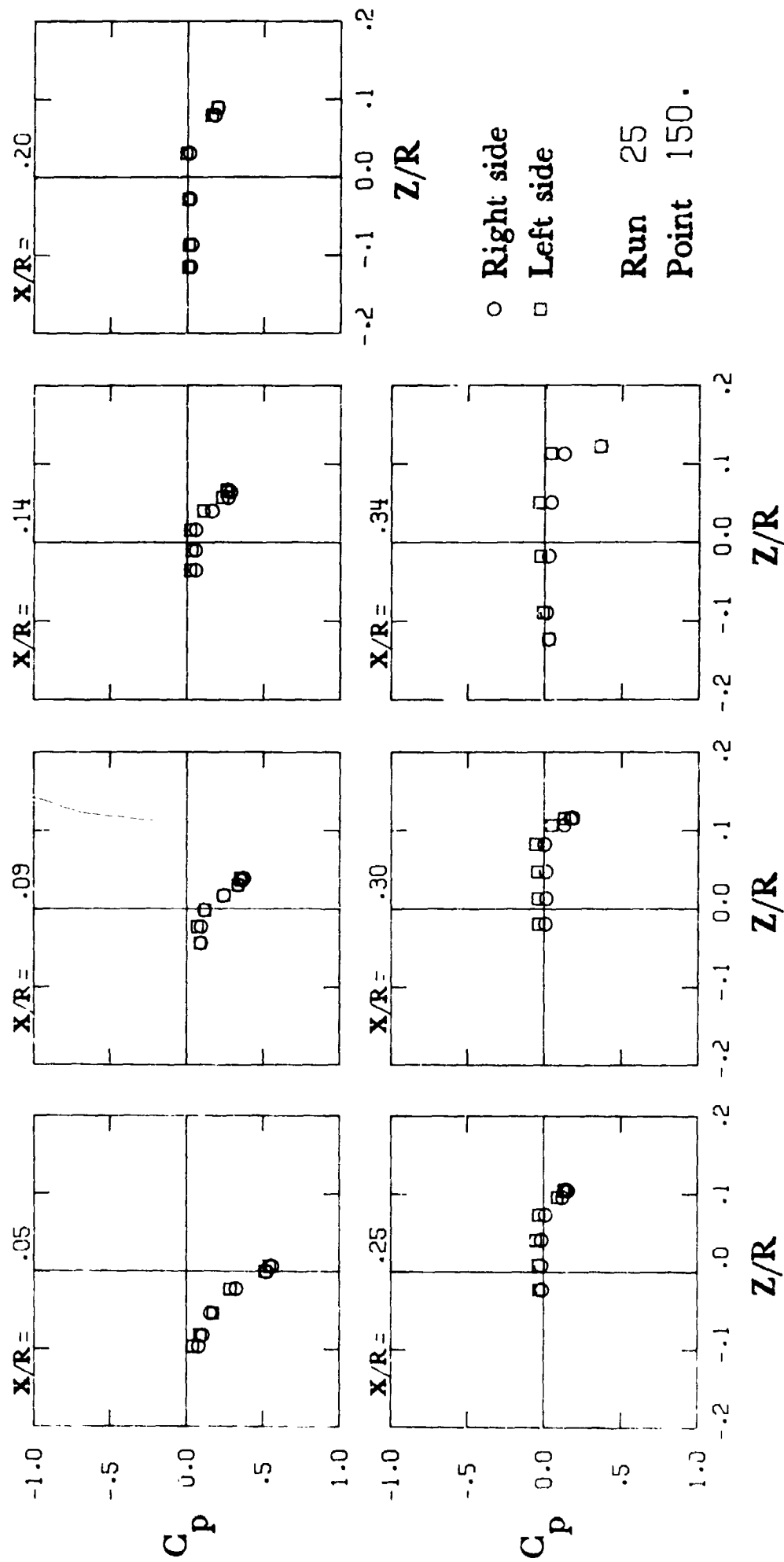


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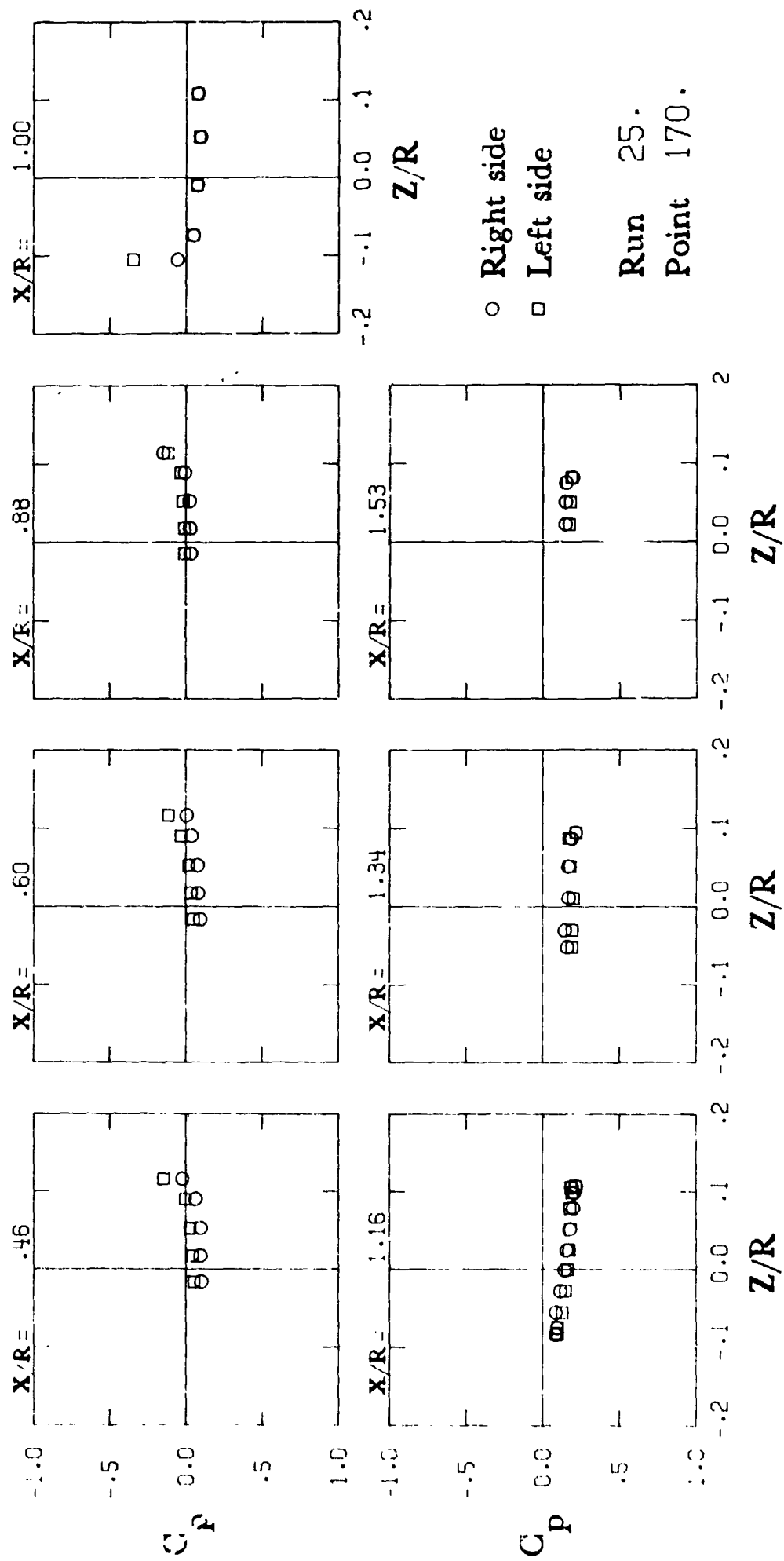


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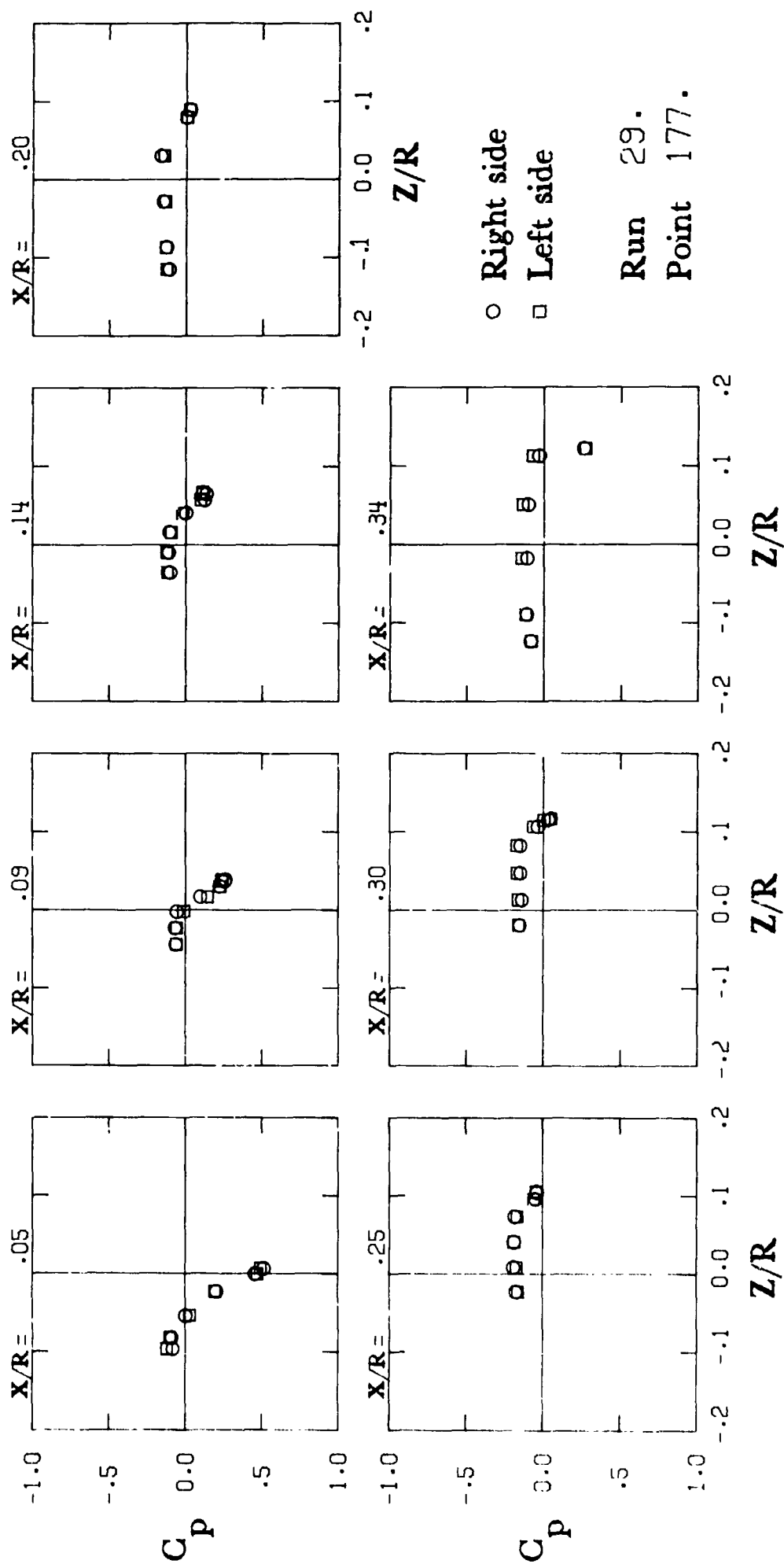


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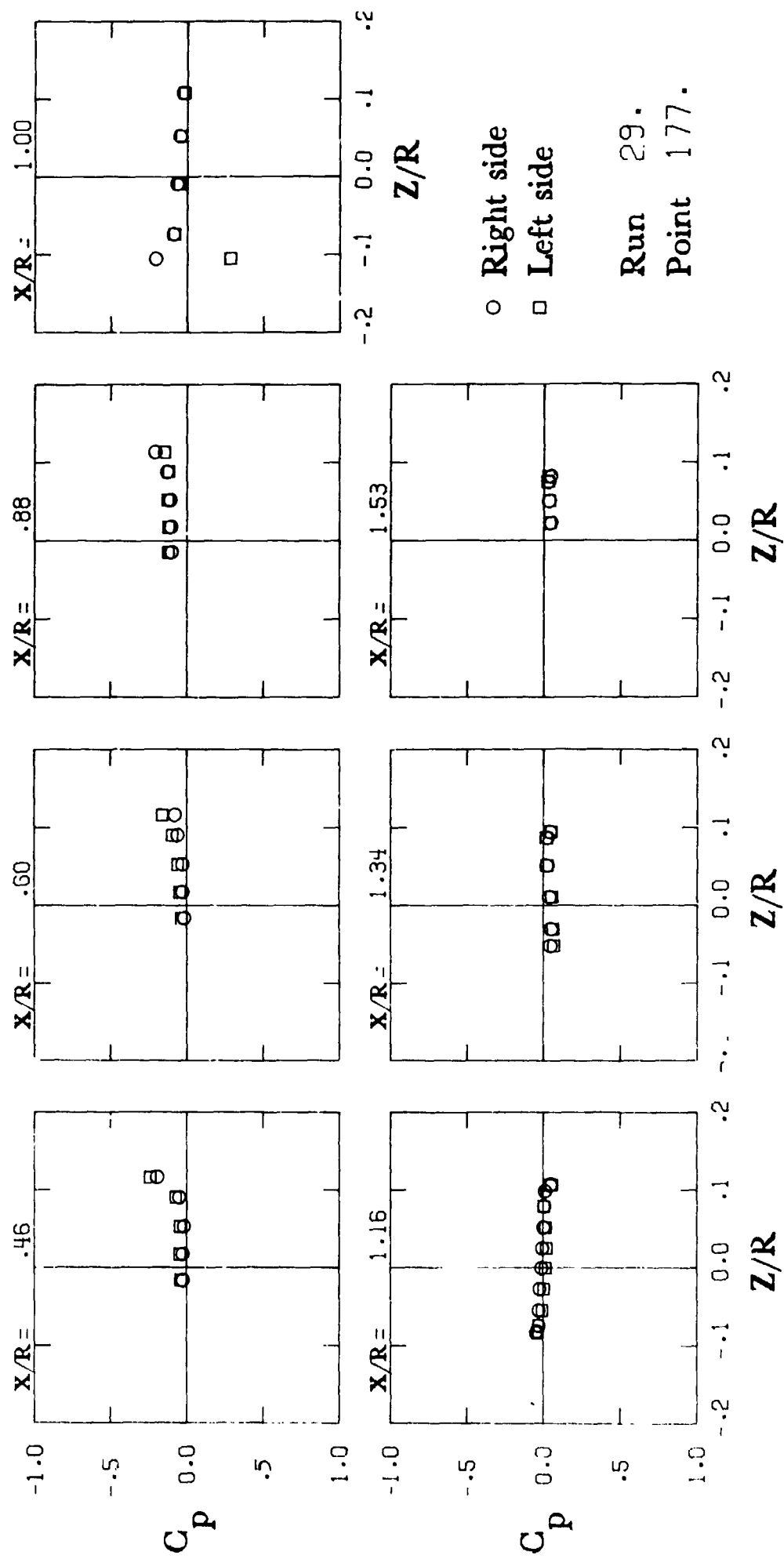


Figure 4. Continued.

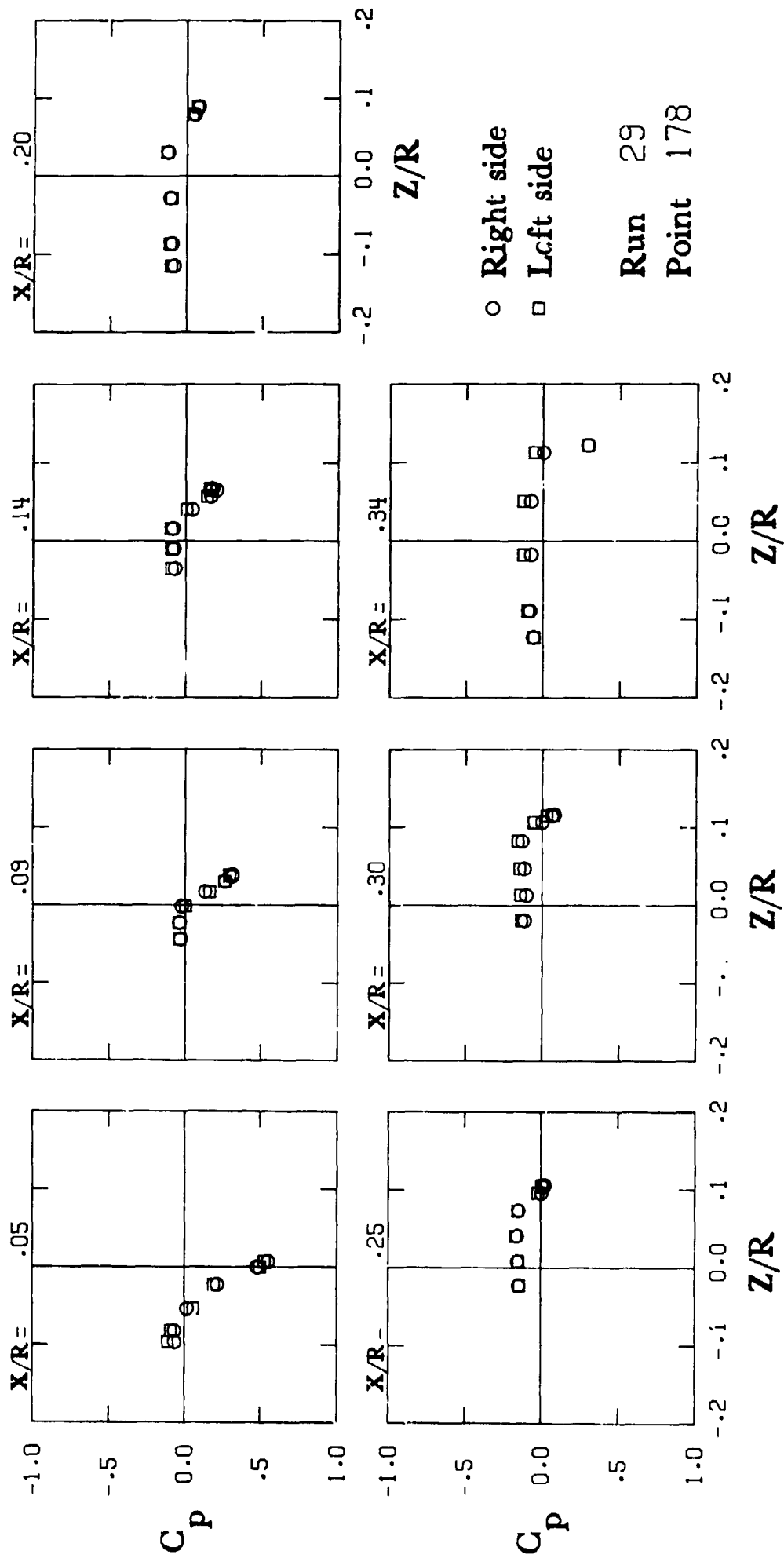


Figure 4. Continued.

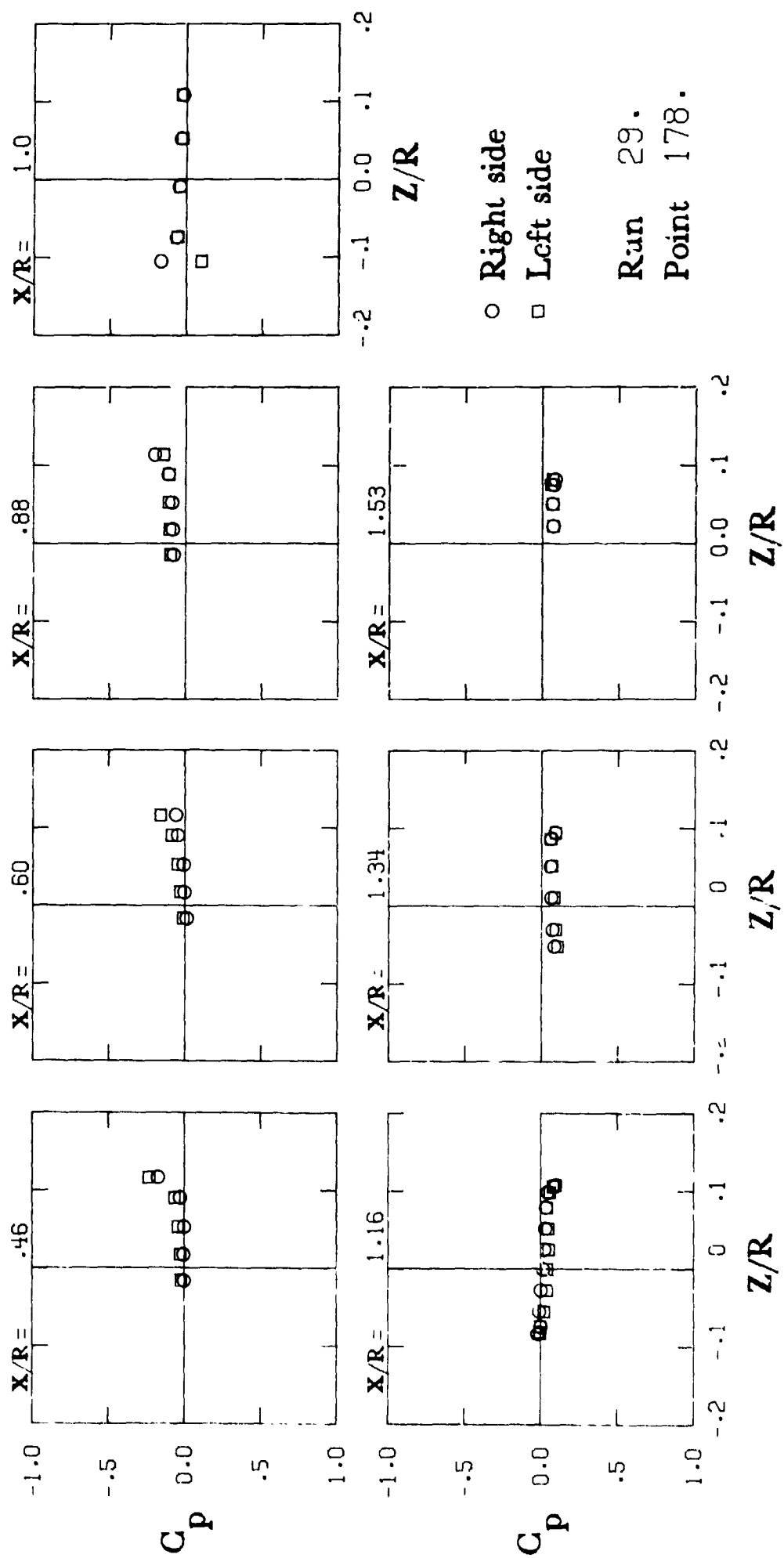


Figure 4. Continued.

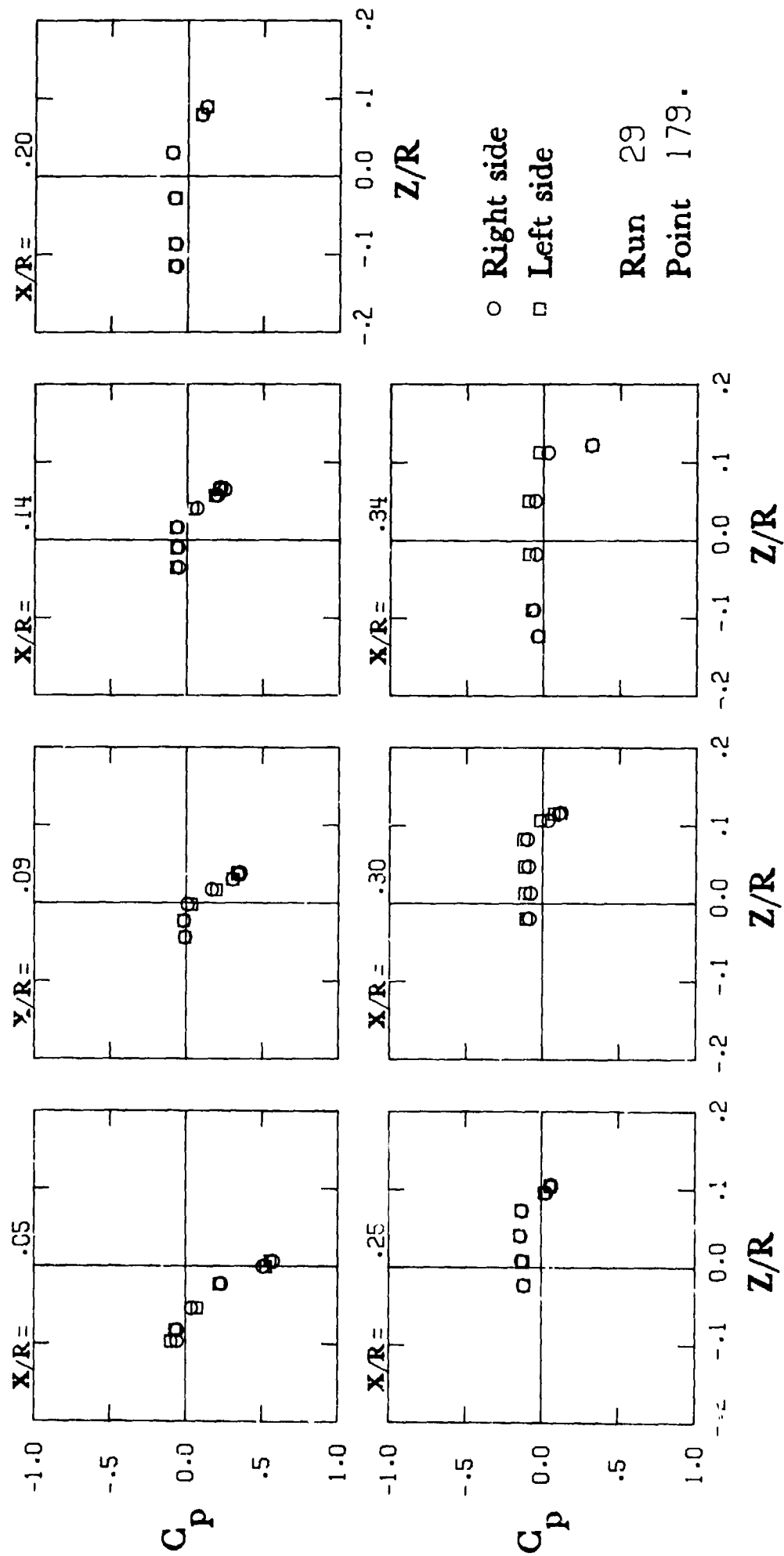


Figure 4. Continued.

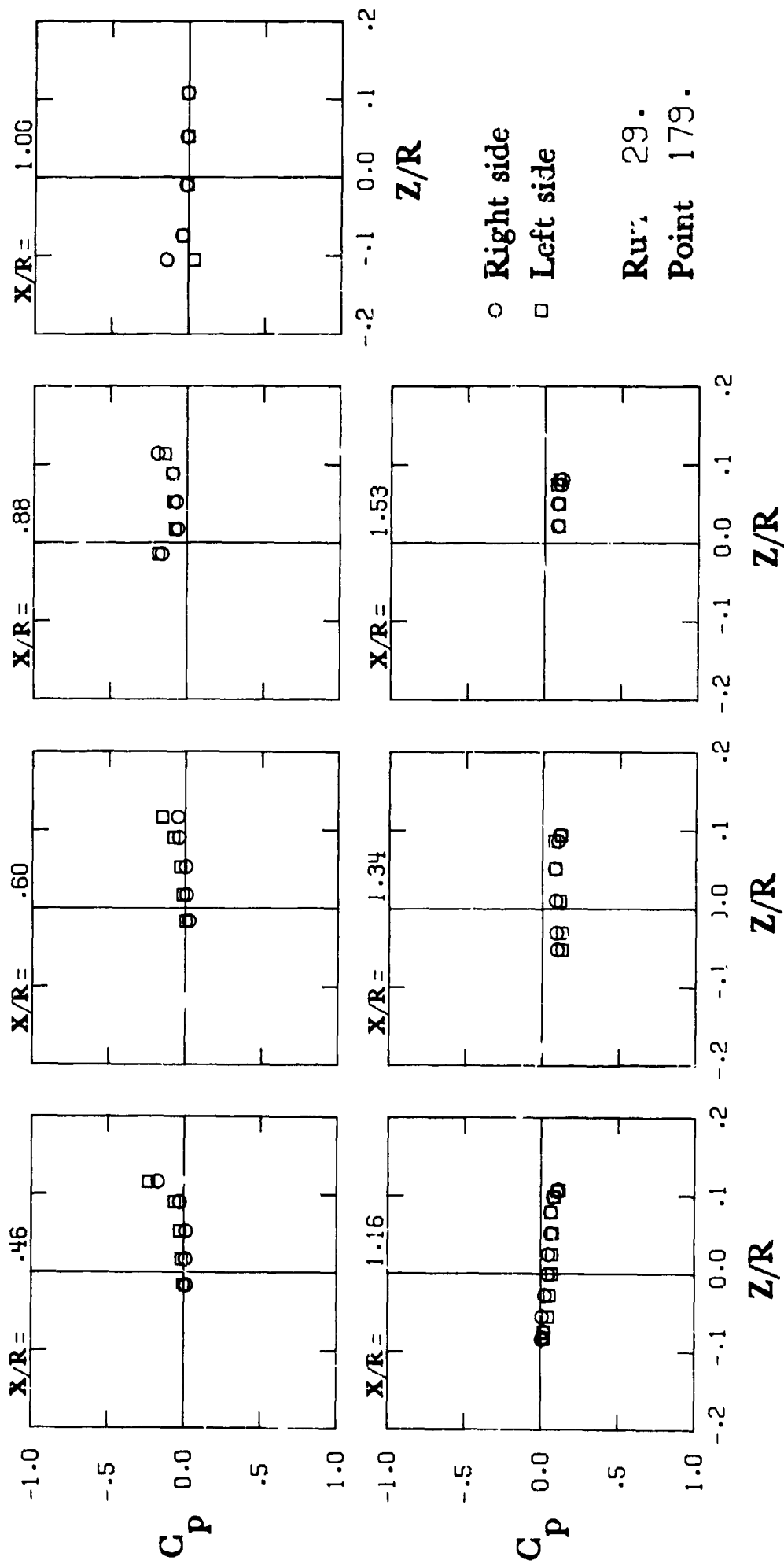


Figure 4. Continued.

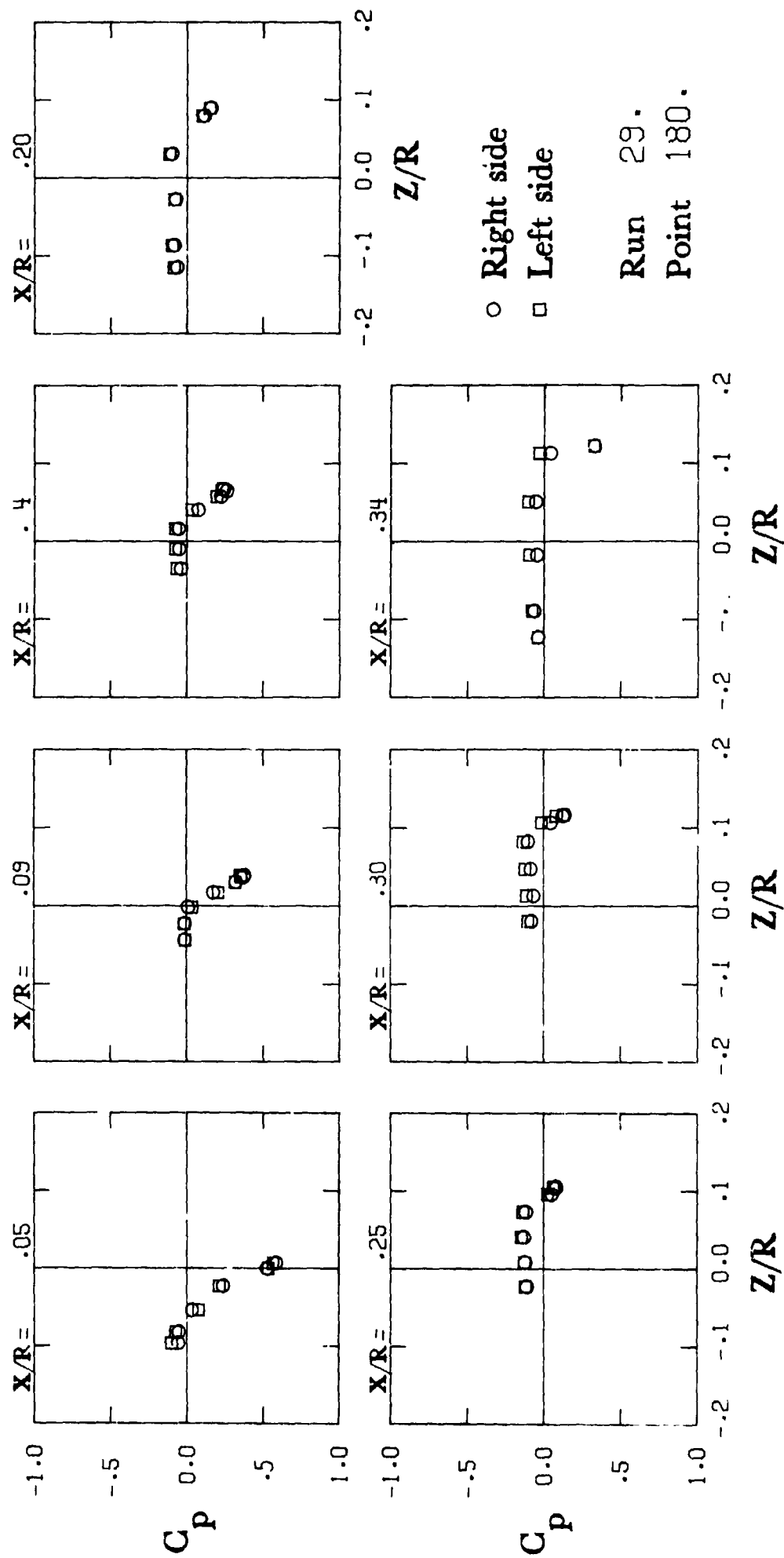
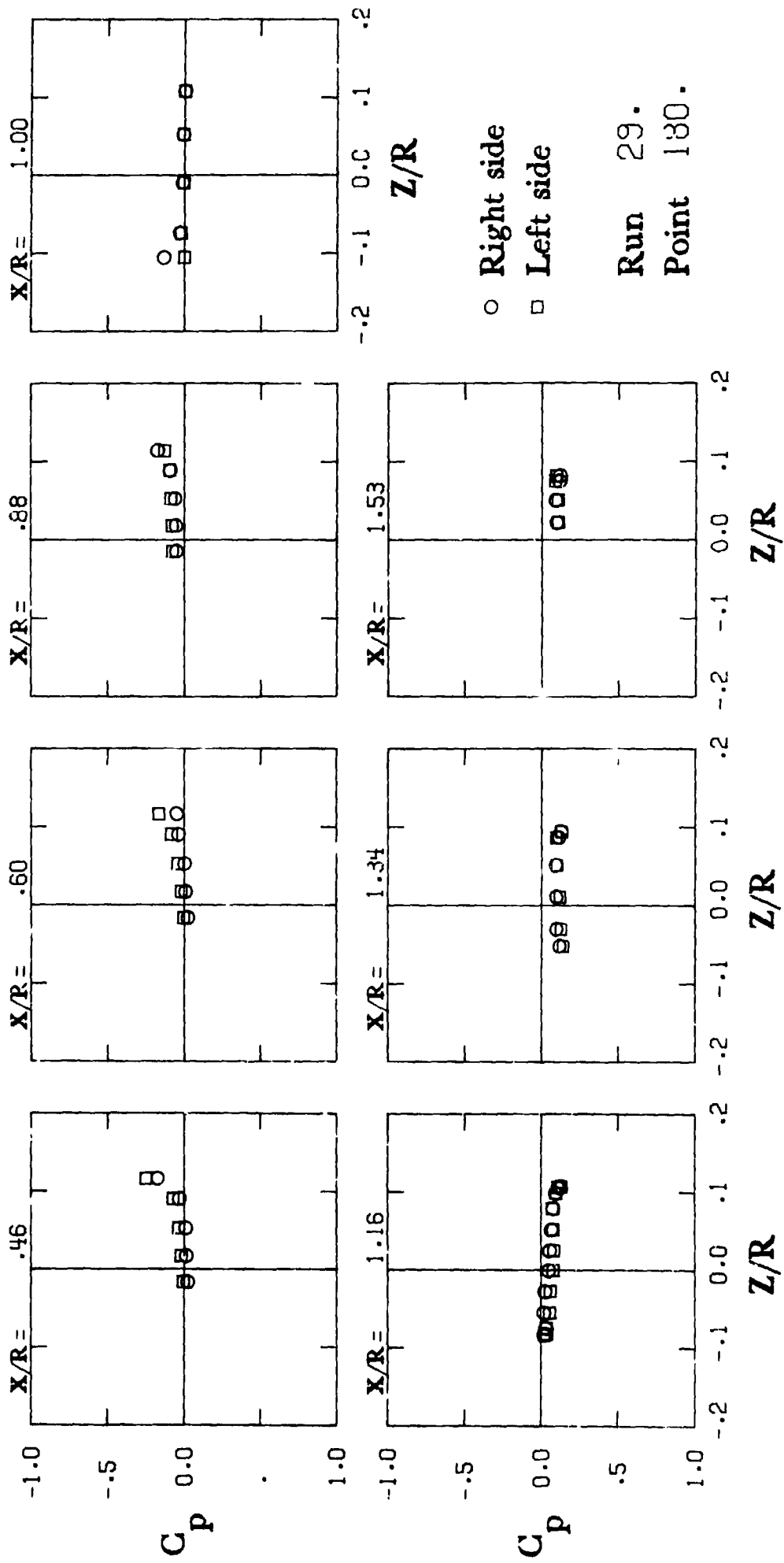


Figure 4. Continued.



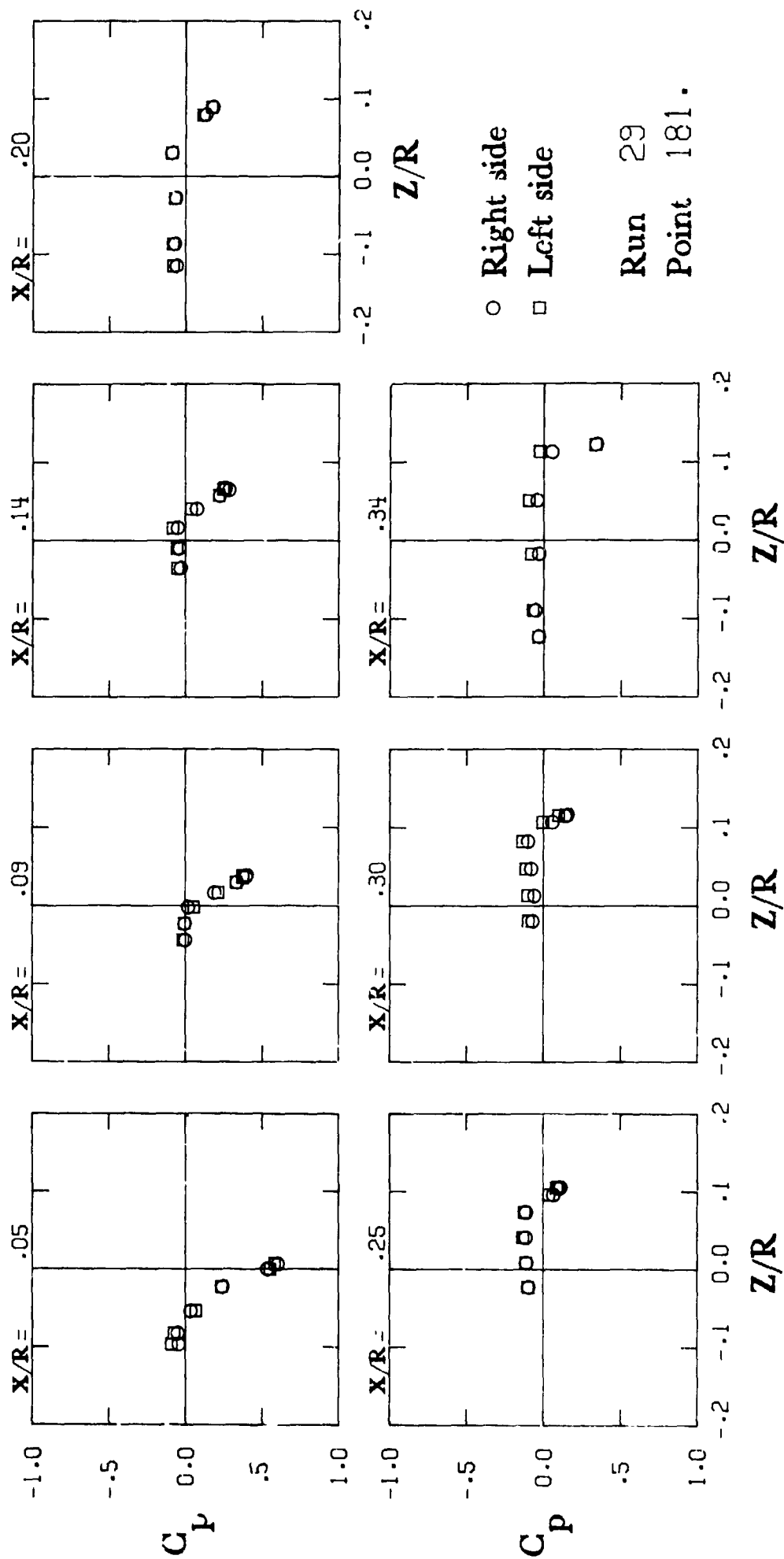


Figure 4. Continued.

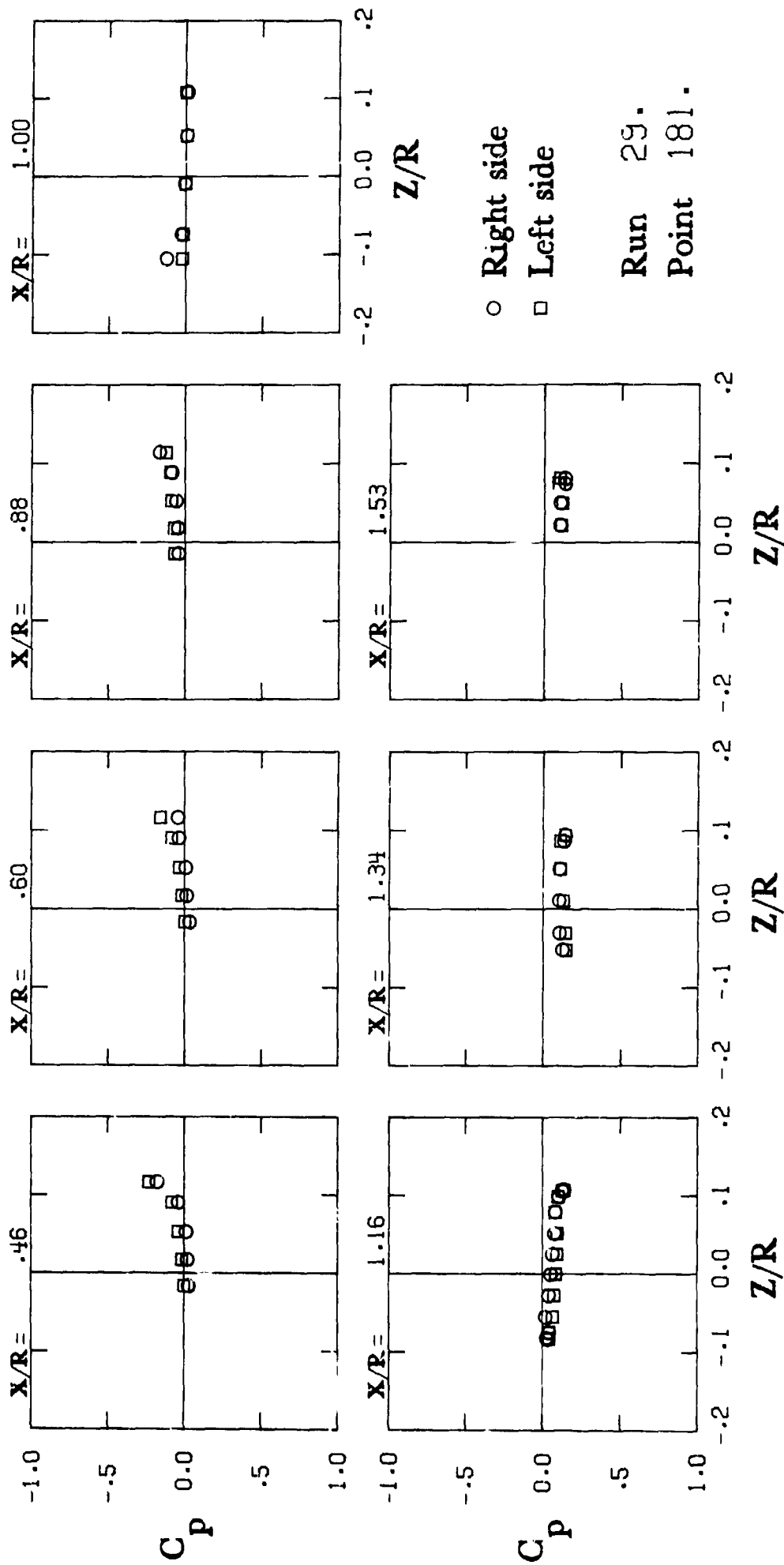


Figure 4. Continued.

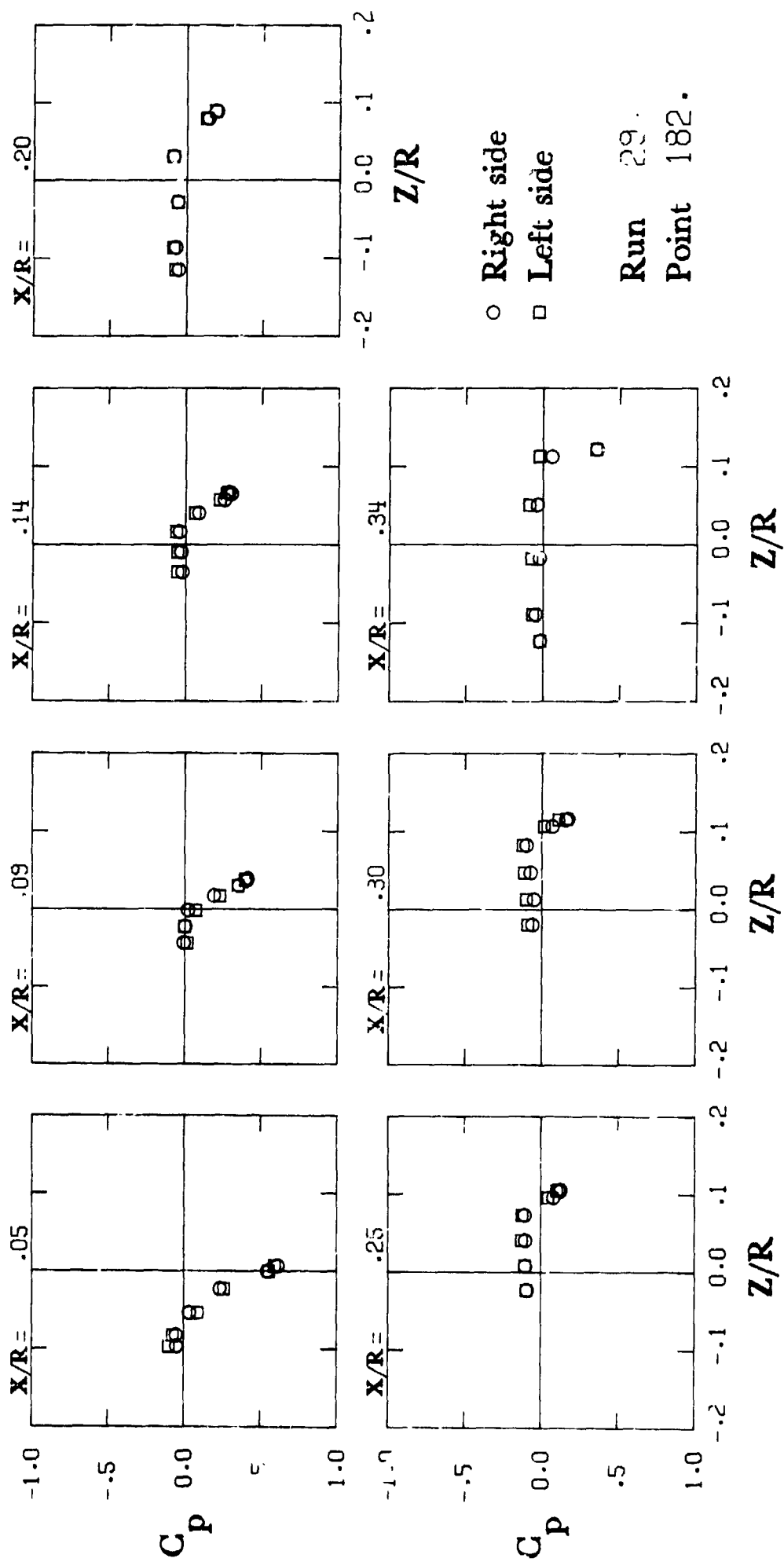


Figure 4. Continued.

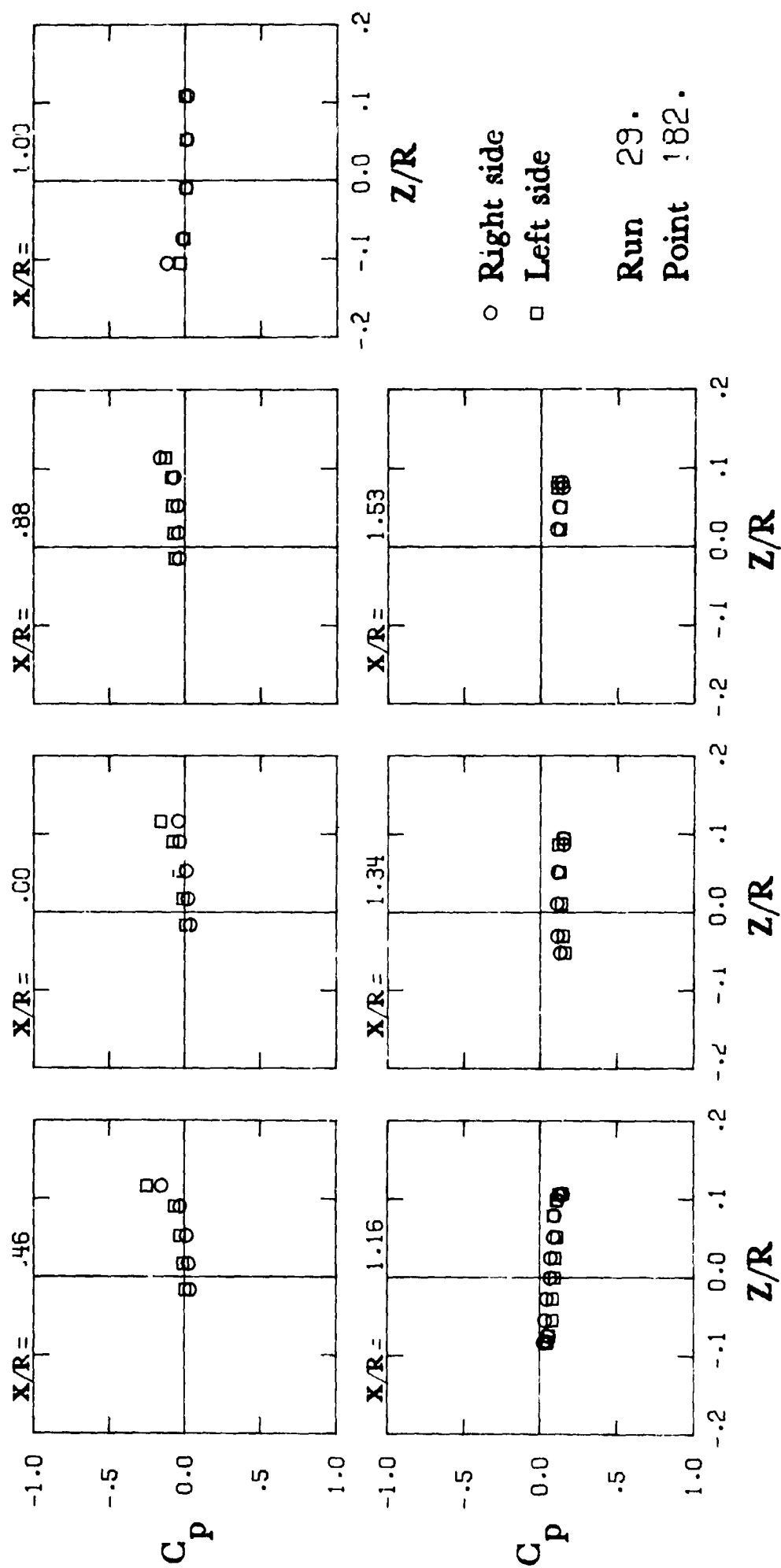


Figure 4. Continued.

APPENDIX

The pressure data, presented graphically as figure 4, are presented in tabular form in this appendix. Orifices are referenced by orifice number. The coordinates may be found in table III and the test conditions in table IV. The pressure coefficient C_p is described in the "Symbols" section.

APPENDIX CONTINUED.

| RUN= | 10 | POINT= | 79 | ORIFICE(CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|---------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | .705 | 21 | .574 | 31 | .046 | 41 | -.309 | 51 | -.474 | 61 | -.365 | 71 | .459 | 81 | .443 | 91 | .318 | 101 | .046 |
| 111 | -.229 | 121 | -.250 | 131 | -.264 | 141 | .259 | 151 | .270 | 161 | .174 | 171 | -.109 | 181 | -.301 | 191 | -.277 | 201 | -.264 |
| 211 | .120 | 221 | .024 | 231 | -.346 | 241 | -.213 | 251 | -.344 | 261 | -.232 | 271 | .014 | 281 | .011 | 291 | -.085 | 301 | -.341 |
| 311 | -.349 | 321 | -.320 | 331 | -.306 | 341 | .031 | 351 | .007 | 361 | -.103 | 371 | -.371 | 381 | -.313 | 391 | -.268 | 401 | -.255 |
| 411 | .225 | 421 | -.137 | 431 | -.266 | 441 | -.229 | 451 | -.260 | 461 | -.153 | 471 | -.321 | 481 | -.260 | 491 | -.158 | 501 | -.145 |
| 511 | -.135 | 521 | -.166 | 531 | -.216 | 541 | -.145 | 551 | -.127 | 561 | -.114 | 571 | -.171 | 581 | -.219 | 591 | -.192 | 601 | -.179 |
| 611 | -.177 | 621 | -.098 | 631 | -.131 | 641 | -.125 | 651 | -.110 | 661 | -.173 | 671 | .083 | 681 | -.010 | 691 | -.108 | 701 | -.085 |
| 711 | -.075 | 721 | -.067 | 731 | -.065 | 741 | -.060 | 751 | -.044 | 761 | -.031 | 771 | -.025 | 781 | -.023 | 791 | .086 | 801 | -.142 |
| 811 | -.052 | 821 | -.023 | 831 | .017 | 841 | .033 | 851 | .073 | 861 | -.062 | 871 | -.031 | 881 | -.002 | 891 | .689 | 901 | .587 |
| 911 | .028 | 921 | -.239 | 931 | -.501 | 941 | -.430 | 951 | .437 | 961 | .435 | 971 | .361 | 981 | .120 | 991 | -.181 | 1001 | -.252 |
| 1011 | -.260 | 1021 | .259 | 1031 | .251 | 1041 | .165 | 1051 | -.124 | 1061 | -.294 | 1071 | -.273 | 1081 | -.284 | 1091 | .123 | 1101 | .039 |
| 1111 | -.333 | 1121 | -.257 | 1131 | -.339 | 1141 | -.250 | 1151 | .015 | 1161 | .020 | 1171 | -.061 | 1181 | -.323 | 1191 | -.320 | 1201 | -.284 |
| 1211 | -.268 | 1221 | .029 | 1231 | -.003 | 1241 | -.128 | 1251 | -.356 | 1261 | -.299 | 1271 | -.279 | 1281 | -.265 | 1291 | .225 | 1301 | -.131 |
| 1311 | -.271 | 1321 | -.245 | 1331 | -.265 | 1341 | -.148 | 1351 | -.305 | 1361 | -.234 | 1371 | -.157 | 1381 | -.134 | 1391 | -.142 | 1401 | -.168 |
| 1411 | -.216 | 1421 | -.148 | 1431 | -.125 | 1441 | -.108 | 1451 | -.171 | 1461 | -.211 | 1471 | -.191 | 1481 | -.188 | 1491 | -.179 | 1501 | -.086 |
| 1511 | -.116 | 1521 | -.111 | 1531 | -.116 | 1541 | -.160 | 1551 | .089 | 1561 | -.010 | 1571 | -.065 | 1581 | -.088 | 1591 | -.075 | 1601 | -.054 |
| 1611 | -.045 | 1621 | -.040 | 1631 | -.012 | 1641 | -.026 | 1651 | -.031 | 1661 | -.031 | 1671 | .080 | 1681 | -.095 | 1691 | -.029 | 1701 | -.015 |
| 1711 | .013 | 1721 | .036 | 1731 | .050 | 1741 | -.045 | 1751 | -.008 | 1761 | .017 | | | | | | | | |

| RUN= | 10 | POINT= | 80 | ORIFICE(CP) | | | | | | | | | | | | | | | | |
|------|-------|--------|-------|---------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|
| 11 | .587 | 21 | .434 | 31 | .106 | 41 | -.141 | 51 | -.261 | 61 | -.242 | 71 | .332 | 81 | .316 | 91 | .257 | 101 | .074 | |
| 111 | -.138 | 121 | -.165 | 131 | -.154 | 141 | .124 | 151 | .159 | 161 | .124 | 171 | -.043 | 181 | -.194 | 191 | -.192 | 201 | -.186 | |
| 211 | .010 | 221 | -.038 | 231 | -.274 | 241 | -.223 | 251 | -.239 | 261 | -.194 | 271 | -.088 | 281 | -.093 | 291 | -.133 | 301 | -.277 | |
| 311 | -.293 | 321 | -.271 | 331 | -.255 | 341 | -.035 | 351 | -.064 | 361 | -.122 | 371 | -.278 | 381 | -.255 | 391 | -.229 | 401 | -.226 | |
| 411 | .181 | 421 | -.122 | 431 | -.223 | 441 | -.197 | 451 | -.197 | 461 | -.143 | 471 | -.247 | 481 | -.156 | 491 | -.122 | 501 | -.109 | |
| 511 | -.101 | 521 | -.153 | 531 | -.148 | 541 | -.111 | 551 | -.098 | 561 | -.080 | 571 | -.223 | 581 | -.184 | 591 | -.171 | 601 | -.158 | |
| 611 | -.276 | 621 | -.081 | 631 | -.101 | 641 | -.114 | 651 | -.118 | 661 | -.186 | 671 | .044 | 681 | -.006 | 691 | -.058 | 701 | -.060 | |
| 711 | -.047 | 721 | -.049 | 731 | -.047 | 741 | -.060 | 751 | -.049 | 761 | -.045 | 771 | -.051 | 781 | -.056 | 791 | .027 | 801 | -.041 | |
| 811 | -.035 | 821 | -.012 | 831 | .009 | 841 | .032 | 851 | .013 | 861 | -.029 | 871 | .000 | 881 | .000 | 891 | .573 | 901 | .513 | |
| 911 | .134 | 921 | -.087 | 931 | -.280 | 941 | -.273 | 951 | .315 | 961 | .304 | 971 | .247 | 981 | .106 | 991 | -.103 | 1001 | -.179 | |
| 1011 | -.155 | 1021 | .129 | 1031 | .140 | 1041 | .101 | 1051 | -.093 | 1061 | -.213 | 1071 | -.202 | 1081 | -.192 | 1091 | .020 | 1101 | -.009 | |
| 1111 | -.254 | 1121 | -.200 | 1131 | -.218 | 1141 | -.202 | 1151 | -.080 | 1161 | -.077 | 1171 | -.093 | 1181 | -.260 | 1191 | -.260 | 1201 | -.241 | |
| 1211 | -.215 | 1221 | -.072 | 1231 | -.069 | 1241 | -.137 | 1251 | -.268 | 1261 | -.253 | 1271 | -.236 | 1281 | -.228 | 1291 | .192 | 1301 | -.140 | |
| 1311 | -.222 | 1321 | -.208 | 1331 | -.188 | 1341 | -.140 | 1351 | -.242 | 1361 | -.137 | 1371 | -.114 | 1381 | -.103 | 1391 | -.100 | 1401 | -.163 | |
| 1411 | -.134 | 1421 | -.133 | 1431 | -.089 | 1441 | -.078 | 1451 | -.194 | 1461 | -.180 | 1471 | -.174 | 1481 | -.163 | 1491 | -.302 | 1501 | -.070 | |
| 1511 | -.088 | 1521 | -.107 | 1531 | -.106 | 1541 | -.175 | 1551 | .043 | 1561 | .001 | 1571 | -.033 | 1581 | -.065 | 1591 | -.029 | 1601 | -.029 | |
| 1611 | -.031 | 1621 | -.038 | 1631 | -.031 | 1641 | -.038 | 1651 | -.047 | 1661 | -.042 | 1671 | .045 | 1681 | -.024 | 1691 | -.024 | 1701 | .008 | |
| 1711 | .040 | 1721 | .040 | 1731 | .022 | 1741 | .004 | 1751 | .017 | 1761 | .015 | | | | | | | | | |

APPENDIX CONTINUED.

| PUN= | 10 | POINT= | 81 | OFFICE(| CP) | | | | | | | | | | | | | | | |
|------|-----|--------|------|---------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 1 | .243) | 2(| .275) | 3(| .150) | 4(| .054) | 5(| .062) | 6(| -.008) | 7(| -.010) | 8(| .014) | 9(| .016) | 10(| -.024) |
| 11 | 11 | -.082) | 12(| -.088) | 13(| -.085) | 14(| -.157) | 15(| -.130) | 16(| -.090) | 17(| -.109) | 18(| -.168) | 19(| -.168) | 20(| -.154) |
| 21 | 21 | -.237) | 22(| -.218) | 23(| -.234) | 24(| -.213) | 25(| -.138) | 26(| -.106) | 27(| -.288) | 28(| -.277) | 29(| -.256) | 30(| -.269) |
| 31 | 31 | -.272) | 32(| -.272) | 33(| -.264) | 34(| -.184) | 35(| -.198) | 36(| -.219) | 37(| -.237) | 38(| -.237) | 39(| -.237) | 40(| -.234) |
| 41 | 41 | .094) | 42(| -.171) | 43(| -.205) | 44(| -.205) | 45(| -.211) | 46(| -.127) | 47(| -.171) | 48(| -.127) | 49(| -.140) | 50(| -.140) |
| 51 | 51 | -.135) | 52(| -.140) | 53(| -.121) | 54(| -.119) | 55(| -.121) | 56(| -.111) | 57(| -.287) | 58(| -.239) | 59(| -.211) | 60(| -.208) |
| 61 | 61 | -.203) | 62(| -.098) | 63(| -.144) | 64(| -.165) | 65(| -.217) | 66(| -.284) | 67(| -.031) | 68(| -.048) | 69(| -.062) | 70(| -.056) |
| 71 | 71 | -.054) | 72(| -.058) | 73(| -.094) | 74(| -.119) | 75(| -.150) | 76(| -.186) | 77(| -.202) | 78(| -.208) | 79(| -.035) | 80(| -.052) |
| 81 | 81 | -.033) | 82(| -.021) | 83(| -.048) | 84(| -.065) | 85(| -.023) | 86(| -.033) | 87(| -.025) | 88(| -.023) | 89(| .233) | 90(| .270) |
| 91 | 91 | .133) | 92(| .073) | 93(| .057) | 94(| -.014) | 95(| -.029) | 96(| .007) | 97(| .015) | 98(| .002) | 99(| -.066) | 100(| -.129) |
| 101 | 101 | -.077) | 102(| -.147) | 103(| -.139) | 104(| -.105) | 105(| -.121) | 106(| -.160) | 107(| -.160) | 108(| -.158) | 109(| -.221) | 110(| -.184) |
| 111 | 111 | -.197) | 112(| -.184) | 113(| -.121) | 114(| -.108) | 115(| -.276) | 116(| -.257) | 117(| -.229) | 118(| -.223) | 119(| -.252) | 120(| -.242) |
| 121 | 121 | -.236) | 122(| -.184) | 123(| -.205) | 124(| -.239) | 125(| -.253) | 126(| -.251) | 127(| -.251) | 128(| -.248) | 129(| .111) | 130(| -.182) |
| 131 | 131 | -.225) | 132(| -.231) | 133(| -.196) | 134(| -.119) | 135(| -.165) | 136(| -.117) | 137(| -.128) | 138(| -.128) | 139(| -.122) | 140(| -.162) |
| 141 | 141 | -.134) | 142(| -.122) | 143(| -.117) | 144(| -.111) | 145(| -.285) | 146(| -.242) | 147(| -.225) | 148(| -.219) | 149(| -.214) | 150(| -.088) |
| 151 | 151 | -.148) | 152(| -.160) | 153(| -.215) | 154(| -.289) | 155(| -.024) | 156(| -.038) | 157(| -.054) | 158(| -.040) | 159(| -.052) | 160(| -.040) |
| 161 | 161 | -.091) | 162(| -.111) | 163(| -.148) | 164(| -.181) | 165(| -.199) | 166(| -.206) | 167(| -.024) | 168(| -.042) | 169(| -.019) | 170(| -.019) |
| 171 | 171 | -.047) | 172(| -.061) | 173(| -.017) | 174(| -.022) | 175(| -.015) | 176(| -.205) | 177(| -.015) | 178(| -.015) | 179(| -.015) | 180(| -.015) |

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| RUN= | 11 | POINT= | A2 | OFFICE(CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|--------------|-------|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| 11 | .409 | 2 | .374 | 3 | .139 | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | |
| 11 | -.122 | 12 | -.125 | 13 | -.130 | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | |
| 21 | -.103 | 22 | -.130 | 23 | -.248 | 24 | | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | |
| 31 | -.298 | 32 | -.285 | 33 | -.261 | 34 | | 35 | | 36 | | 37 | | 38 | | 39 | | 40 | |
| 41 | .107 | 42 | -.171 | 43 | -.232 | 44 | | 45 | | 46 | | 47 | | 48 | | 49 | | 50 | |
| 51 | -.119 | 52 | -.153 | 53 | -.137 | 54 | | 55 | | 56 | | 57 | | 58 | | 59 | | 60 | |
| 61 | -.184 | 62 | -.113 | 63 | -.127 | 64 | | 65 | | 66 | | 67 | | 68 | | 69 | | 70 | |
| 71 | -.069 | 72 | -.071 | 73 | -.083 | 74 | | 75 | | 76 | | 77 | | 78 | | 79 | | 80 | |
| 81 | -.050 | 82 | -.015 | 83 | -.012 | 84 | | 85 | | 86 | | 87 | | 88 | | 89 | | 90 | |
| 91 | .136 | 92 | -.032 | 93 | -.129 | 94 | | 95 | | 96 | | 97 | | 98 | | 99 | | 100 | |
| 101 | -.118 | 102 | -.032 | 103 | -.024 | 104 | | 105 | | 106 | | 107 | | 108 | | 109 | | 110 | |
| 111 | -.221 | 112 | -.195 | 113 | -.179 | 114 | | 115 | | 116 | | 117 | | 118 | | 119 | | 120 | |
| 121 | -.231 | 122 | -.145 | 123 | -.171 | 124 | | 125 | | 126 | | 127 | | 128 | | 129 | | 130 | |
| 131 | -.245 | 132 | -.236 | 133 | -.199 | 134 | | 135 | | 136 | | 137 | | 138 | | 139 | | 140 | |
| 141 | -.137 | 142 | -.182 | 143 | -.111 | 144 | | 145 | | 146 | | 147 | | 148 | | 149 | | 150 | |
| 151 | -.123 | 152 | -.137 | 153 | -.160 | 154 | | 155 | | 156 | | 157 | | 158 | | 159 | | 160 | |
| 161 | -.082 | 162 | -.093 | 163 | -.082 | 164 | | 165 | | 166 | | 167 | | 168 | | 169 | | 170 | |
| 171 | -.008 | 172 | -.017 | 173 | -.010 | 174 | | 175 | | 176 | | 177 | | 178 | | 179 | | 180 | |

APPENDIX CONTINUED.

| RUN= | 11 | POINT= | R3 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | .371 | 21 | .265 | 31 | -.050 | 41 | -.200 | 51 | -.162 | 61 | -.149 | 71 | .131 |
| 11 | -.298 | 12 | -.269 | 13 | -.248 | 14 | -.042 | 15 | -.058 | 16 | -.109 | 17 | -.248 |
| 21 | -.149 | 22 | -.221 | 23 | -.362 | 24 | -.296 | 25 | -.213 | 26 | -.186 | 27 | -.237 |
| 31 | -.373 | 32 | -.346 | 33 | -.330 | 34 | -.161 | 35 | -.184 | 36 | -.266 | 37 | -.365 |
| 41 | .059 | 42 | -.258 | 43 | -.279 | 44 | -.247 | 45 | -.229 | 46 | -.169 | 47 | -.389 |
| 51 | -.129 | 52 | -.177 | 53 | -.156 | 54 | -.127 | 55 | -.129 | 56 | -.114 | 57 | -.221 |
| 61 | -.182 | 62 | -.046 | 63 | -.083 | 64 | -.110 | 65 | -.169 | 66 | -.215 | 67 | .006 |
| 71 | -.033 | 72 | -.037 | 73 | -.048 | 74 | -.071 | 75 | -.135 | 76 | -.156 | 77 | -.167 |
| 81 | -.035 | 82 | -.002 | 83 | .013 | 84 | .002 | 85 | -.021 | 86 | -.021 | 87 | -.015 |
| 91 | .306 | 92 | .152 | 93 | -.079 | 94 | -.195 | 95 | .149 | 96 | .159 | 97 | .214 |
| 101 | .031 | 102 | -.021 | 103 | -.011 | 104 | .057 | 105 | .031 | 106 | -.048 | 107 | -.069 |
| 111 | -.092 | 112 | -.113 | 113 | -.142 | 114 | -.215 | 115 | -.210 | 116 | -.181 | 117 | -.126 |
| 121 | -.163 | 122 | -.137 | 123 | -.125 | 124 | -.148 | 125 | -.165 | 126 | -.179 | 127 | -.177 |
| 131 | -.162 | 132 | -.174 | 133 | -.168 | 134 | -.162 | 135 | -.085 | 136 | -.077 | 137 | -.088 |
| 141 | -.111 | 142 | -.097 | 143 | -.088 | 144 | -.082 | 145 | -.336 | 146 | -.242 | 147 | -.211 |
| 151 | -.144 | 152 | -.151 | 153 | -.167 | 154 | -.234 | 155 | -.054 | 156 | -.063 | 157 | -.056 |
| 161 | -.095 | 162 | -.109 | 163 | -.135 | 164 | -.146 | 165 | -.160 | 166 | -.169 | 167 | -.056 |
| 171 | -.042 | 172 | -.038 | 173 | -.047 | 174 | -.052 | 175 | -.038 | 176 | -.022 | | |

| RUN= | 11 | POINT= | R4 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | .419 | 21 | .377 | 31 | .142 | 41 | -.053 | 51 | -.120 | 61 | -.141 | 71 | .150 |
| 11 | -.125 | 12 | -.128 | 13 | -.122 | 14 | -.032 | 15 | -.002 | 16 | -.005 | 17 | -.098 |
| 21 | -.130 | 22 | -.134 | 23 | -.269 | 24 | -.237 | 25 | -.192 | 26 | -.176 | 27 | -.210 |
| 31 | -.298 | 32 | -.290 | 33 | -.269 | 34 | -.140 | 35 | -.153 | 36 | -.187 | 37 | -.260 |
| 41 | .107 | 42 | -.156 | 43 | -.219 | 44 | -.213 | 45 | -.203 | 46 | -.158 | 47 | -.224 |
| 51 | -.132 | 52 | -.163 | 53 | -.142 | 54 | -.127 | 55 | -.116 | 56 | -.108 | 57 | -.279 |
| 61 | -.192 | 62 | -.113 | 63 | -.131 | 64 | -.150 | 65 | -.167 | 66 | -.254 | 67 | -.023 |
| 71 | -.060 | 72 | -.069 | 73 | -.077 | 74 | -.096 | 75 | -.113 | 76 | -.150 | 77 | -.163 |
| 81 | -.067 | 82 | -.037 | 83 | -.035 | 84 | -.023 | 85 | -.031 | 86 | -.040 | 87 | -.040 |
| 91 | .125 | 92 | .005 | 93 | -.134 | 94 | -.163 | 95 | .123 | 96 | .128 | 97 | .133 |
| 101 | -.118 | 102 | -.024 | 103 | -.016 | 104 | -.021 | 105 | -.105 | 106 | -.189 | 107 | -.208 |
| 111 | -.226 | 112 | -.213 | 113 | -.184 | 114 | -.181 | 115 | -.202 | 116 | -.202 | 117 | -.192 |
| 121 | -.242 | 122 | -.134 | 123 | -.162 | 124 | -.199 | 125 | -.259 | 126 | -.256 | 127 | -.253 |
| 131 | -.228 | 132 | -.228 | 133 | -.194 | 134 | -.151 | 135 | -.214 | 136 | -.139 | 137 | -.134 |
| 141 | -.148 | 142 | -.128 | 143 | -.111 | 144 | -.108 | 145 | -.273 | 146 | -.225 | 147 | -.211 |
| 151 | -.125 | 152 | -.139 | 153 | -.158 | 154 | -.254 | 155 | -.022 | 156 | -.042 | 157 | -.049 |
| 161 | -.077 | 162 | -.084 | 163 | -.100 | 164 | -.144 | 165 | -.155 | 166 | -.151 | 167 | -.022 |
| 171 | -.026 | 172 | -.017 | 173 | -.033 | 174 | -.031 | 175 | -.033 | 176 | -.019 | | |

APPENDIX CONTINUED.

| RUN= | 11 | POINT= | 85 | OPFICE (CP) | | | | | | | | | | | | | | | |
|-------|--------|--------|--------|---------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| 1 (| .423) | 2 (| .476) | 3 (| .340) | 4 (| .095) | 5 (| -.099) | 6 (| -.171) | 7 (| .154) | 8 (| .077) | 9 (| .212) | 10 (| .175) |
| 11 (| .061) | 12 (| .010) | 13 (| -.006) | 14 (| -.019) | 15 (| .010) | 16 (| .071) | 17 (| .053) | 18 (| -.046) | 19 (| -.073) | 20 (| -.075) |
| 21 (| -.142) | 22 (| -.070) | 23 (| -.129) | 24 (| -.137) | 25 (| -.158) | 26 (| -.198) | 27 (| -.211) | 28 (| -.198) | 29 (| -.161) | 30 (| -.163) |
| 31 (| -.211) | 32 (| -.219) | 33 (| -.203) | 34 (| -.133) | 35 (| -.128) | 36 (| -.133) | 37 (| -.096) | 38 (| -.180) | 39 (| -.190) | 40 (| -.185) |
| 41 (| .087) | 42 (| -.091) | 43 (| -.156) | 44 (| -.164) | 45 (| -.177) | 46 (| -.180) | 47 (| -.094) | 48 (| -.088) | 49 (| -.096) | 50 (| -.099) |
| 51 (| -.101) | 52 (| -.122) | 53 (| -.107) | 54 (| -.094) | 55 (| -.096) | 56 (| -.086) | 57 (| -.340) | 58 (| -.245) | 59 (| -.206) | 60 (| -.198) |
| 61 (| -.196) | 62 (| -.117) | 63 (| -.148) | 64 (| -.144) | 65 (| -.098) | 66 (| -.265) | 67 (| -.057) | 68 (| -.071) | 69 (| -.082) | 70 (| -.073) |
| 71 (| -.080) | 72 (| -.094) | 73 (| -.107) | 74 (| -.119) | 75 (| -.140) | 76 (| -.146) | 77 (| -.159) | 78 (| -.167) | 79 (| -.057) | 80 (| -.080) |
| 81 (| -.053) | 82 (| -.050) | 83 (| -.065) | 84 (| -.028) | 85 (| -.036) | 86 (| -.050) | 87 (| -.046) | 88 (| -.032) | 89 (| .378) | 90 (| .286) |
| 91 (| .080) | 92 (| -.151) | 93 (| -.198) | 94 (| -.156) | 95 (| .121) | 96 (| .082) | 97 (| .019) | 98 (| -.193) | 99 (| -.274) | 100 (| -.292) |
| 101 (| -.250) | 102 (| -.030) | 103 (| -.059) | 104 (| -.106) | 105 (| -.266) | 106 (| -.331) | 107 (| -.310) | 108 (| -.284) | 109 (| -.143) | 110 (| -.206) |
| 111 (| -.339) | 112 (| -.279) | 113 (| -.208) | 114 (| -.185) | 115 (| -.219) | 116 (| -.219) | 117 (| -.269) | 118 (| -.363) | 119 (| -.347) | 120 (| -.321) |
| 121 (| -.290) | 122 (| -.152) | 123 (| -.192) | 124 (| -.283) | 125 (| -.346) | 126 (| -.220) | 127 (| -.297) | 128 (| -.249) | 129 (| .070) | 130 (| -.272) |
| 131 (| -.283) | 132 (| -.263) | 133 (| -.223) | 134 (| -.166) | 135 (| -.363) | 136 (| -.186) | 137 (| -.149) | 138 (| -.132) | 139 (| -.129) | 140 (| -.195) |
| 141 (| -.163) | 142 (| -.123) | 143 (| -.118) | 144 (| -.112) | 145 (| -.189) | 146 (| -.180) | 147 (| -.183) | 148 (| -.183) | 149 (| -.183) | 150 (| -.103) |
| 151 (| -.034) | 152 (| -.117) | 153 (| -.177) | 154 (| -.257) | 155 (| -.041) | 156 (| -.025) | 157 (| -.059) | 158 (| -.075) | 159 (| -.080) | 160 (| -.048) |
| 161 (| -.059) | 162 (| -.064) | 163 (| -.119) | 164 (| -.140) | 165 (| -.133) | 166 (| -.144) | 167 (| -.041) | 168 (| -.045) | 169 (| -.034) | 170 (| -.027) |
| 171 (| -.002) | 172 (| .001) | 173 (| -.029) | 174 (| -.020) | 175 (| -.020) | 176 (| -.025) | | | | | | | | |

| RUN= | 11 | POINT= | R6 | OFFICE(CP) | | 5(| 6(| 7(| 8(| 9(| 10(| 11(| 12(| 13(| 14(| 15(| 16(| 17(| 18(| 19(| 20(| 21(| 22(| 23(| 24(| 25(| 26(| 27(| 28(| 29(| 30(| 31(| 32(| 33(| 34(| 35(| 36(| 37(| 38(| 39(| 40(| 41(| 42(| 43(| 44(| 45(| 46(| 47(| 48(| 49(| 50(| 51(| 52(| 53(| 54(| 55(| 56(| 57(| 58(| 59(| 60(| 61(| 62(| 63(| 64(| 65(| 66(| 67(| 68(| 69(| 70(| 71(| 72(| 73(| 74(| 75(| 76(| 77(| 78(| 79(| 80(| 81(| 82(| 83(| 84(| 85(| 86(| 87(| 88(| 89(| 90(| 91(| 92(| 93(| 94(| 95(| 96(| 97(| 98(| 99(| 100(| 101(| 102(| 103(| 104(| 105(| 106(| 107(| 108(| 109(| 110(| 111(| 112(| 113(| 114(| 115(| 116(| 117(| 118(| 119(| 120(| 121(| 122(| 123(| 124(| 125(| 126(| 127(| 128(| 129(| 130(| 131(| 132(| 133(| 134(| 135(| 136(| 137(| 138(| 139(| 140(| 141(| 142(| 143(| 144(| 145(| 146(| 147(| 148(| 149(| 150(| 151(| 152(| 153(| 154(| 155(| 156(| 157(| 158(| 159(| 160(| 161(| 162(| 163(| 164(| 165(| 166(| 167(| 168(| 169(| 170(| 171(| 172(| 173(| 174(| 175(| 176(| 177(| 178(| 179(| 180(| 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APPENDIX CONTINUED.

| RUN= | 11 | POINT= | R7 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | .334 | 21 | .553 | 31 | .633 | 41 | .374 | 51 | -.093 | 61 | -.125 | 71 | .075 | 81 | .145 | 91 | .281 | 101 | -.403 |
| 111 | .361 | 121 | .313 | 131 | .278 | 141 | -.088 | 151 | -.040 | 161 | .126 | 171 | .273 | 181 | .254 | 191 | .206 | 201 | .161 |
| 21 | -.208 | 221 | -.056 | 231 | .120 | 241 | .072 | 251 | -.146 | 261 | -.301 | 271 | -.253 | 281 | -.245 | 291 | -.154 | 301 | -.005 |
| 31 | .008 | 321 | -.016 | 331 | -.021 | 341 | -.171 | 351 | -.169 | 361 | -.158 | 371 | -.011 | 381 | -.036 | 391 | -.017 | 401 | -.027 |
| 41 | -.043 | 421 | -.101 | 431 | -.001 | 441 | -.038 | 451 | -.166 | 461 | -.295 | 471 | .136 | 481 | .031 | 491 | .028 | 501 | .015 |
| 51 | -.001 | 521 | -.022 | 531 | -.022 | 541 | -.003 | 551 | .002 | 561 | -.001 | 571 | -.496 | 581 | -.300 | 591 | -.182 | 601 | -.166 |
| 61 | -.145 | 621 | -.288 | 631 | -.161 | 641 | -.146 | 651 | -.194 | 661 | -.263 | 671 | -.123 | 681 | -.119 | 691 | -.158 | 701 | -.179 |
| 71 | -.125 | 721 | -.110 | 731 | -.110 | 741 | -.133 | 751 | -.221 | 761 | -.269 | 771 | -.240 | 781 | -.236 | 791 | -.117 | 801 | -.127 |
| 81 | -.081 | 821 | -.075 | 831 | -.173 | 841 | -.098 | 851 | -.073 | 861 | -.083 | 871 | -.046 | 881 | -.033 | 891 | .228 | 901 | -.053 |
| 91 | -.522 | 921 | -.504 | 931 | -.320 | 941 | -.239 | 951 | -.006 | 961 | -.105 | 971 | -.299 | 981 | -.517 | 991 | -.614 | 1001 | -.546 |
| 101 | -.457 | 1021 | -.132 | 1031 | -.213 | 1041 | -.396 | 1051 | -.617 | 1061 | -.590 | 1071 | -.509 | 1081 | -.428 | 1091 | -.236 | 1101 | -.485 |
| 111 | -.575 | 1121 | -.368 | 1131 | -.320 | 1141 | -.260 | 1151 | -.286 | 1161 | -.354 | 1171 | -.541 | 1181 | -.624 | 1191 | -.433 | 1201 | -.383 |
| 121 | -.352 | 1221 | -.242 | 1231 | -.356 | 1241 | -.570 | 1251 | -.567 | 1261 | -.398 | 1271 | -.342 | 1281 | -.319 | 1291 | -.094 | 1301 | -.590 |
| 131 | -.333 | 1321 | -.279 | 1331 | -.308 | 1341 | -.239 | 1351 | -.596 | 1361 | -.313 | 1371 | -.188 | 1381 | -.142 | 1391 | -.134 | 1401 | -.234 |
| 141 | -.225 | 1421 | -.134 | 1431 | -.111 | 1441 | -.105 | 1451 | -.299 | 1461 | -.231 | 1471 | -.214 | 1481 | -.211 | 1491 | -.196 | 1501 | -.135 |
| 151 | -.116 | 1521 | -.151 | 1531 | -.314 | 1541 | -.353 | 1551 | -.118 | 1561 | -.137 | 1571 | -.128 | 1581 | -.116 | 1591 | -.088 | 1601 | -.077 |
| 161 | -.079 | 1621 | -.123 | 1631 | -.155 | 1641 | -.217 | 1651 | -.236 | 1661 | -.240 | 1671 | -.100 | 1681 | -.111 | 1691 | -.082 | 1701 | -.045 |
| 171 | -.003 | 1721 | -.006 | 1731 | -.079 | 1741 | -.075 | 1751 | -.063 | 1761 | -.040 | | | | | | | | |

| RUN= | 12 | POINT= | R8 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | .718 | 21 | .567 | 31 | .055 | 41 | -.290 | 51 | -.476 | 61 | -.371 | 71 | .474 | 81 | .452 | 91 | .337 | 101 | .074 |
| 111 | -.237 | 121 | -.256 | 131 | -.268 | 141 | -.279 | 151 | .281 | 161 | .184 | 171 | -.098 | 181 | -.303 | 191 | -.266 | 201 | -.264 |
| 21 | .129 | 221 | .038 | 231 | -.338 | 241 | -.279 | 251 | -.343 | 261 | -.225 | 271 | .023 | 281 | .021 | 291 | -.078 | 301 | -.363 |
| 31 | -.356 | 321 | -.318 | 331 | -.294 | 341 | .061 | 351 | .026 | 361 | -.087 | 371 | -.368 | 381 | -.303 | 391 | -.260 | 401 | -.246 |
| 41 | .247 | 421 | -.122 | 431 | -.257 | 441 | -.209 | 451 | -.256 | 461 | -.141 | 471 | -.369 | 481 | -.251 | 491 | -.161 | 501 | -.139 |
| 51 | -.133 | 521 | -.152 | 531 | -.213 | 541 | -.141 | 551 | -.121 | 561 | -.101 | 571 | -.146 | 581 | -.211 | 591 | -.180 | 601 | -.166 |
| 61 | -.164 | 621 | -.096 | 631 | -.114 | 641 | -.111 | 651 | -.096 | 661 | -.172 | 671 | .101 | 681 | -.001 | 691 | -.108 | 701 | -.070 |
| 71 | -.066 | 721 | -.062 | 731 | -.054 | 741 | -.055 | 751 | -.021 | 761 | -.010 | 771 | -.013 | 781 | -.006 | 791 | .096 | 801 | -.120 |
| 81 | -.041 | 821 | -.013 | 831 | .025 | 841 | .040 | 851 | .089 | 861 | -.047 | 871 | -.023 | 881 | .019 | 891 | .713 | 901 | .609 |
| 91 | .041 | 921 | -.241 | 931 | -.501 | 941 | -.436 | 951 | .464 | 961 | .446 | 971 | .348 | 981 | .115 | 991 | -.179 | 1001 | -.251 |
| 101 | -.259 | 1021 | .283 | 1031 | .269 | 1041 | .190 | 1051 | -.119 | 1061 | -.287 | 1071 | -.264 | 1081 | -.275 | 1091 | .136 | 1101 | .050 |
| 111 | -.292 | 1121 | -.242 | 1131 | -.335 | 1141 | -.244 | 1151 | .036 | 1161 | -.040 | 1171 | -.050 | 1181 | -.322 | 1191 | -.320 | 1201 | -.279 |
| 121 | -.263 | 1221 | .063 | 1231 | .020 | 1241 | -.100 | 1251 | -.346 | 1261 | -.290 | 1271 | -.261 | 1281 | -.252 | 1291 | .256 | 1301 | -.134 |
| 131 | -.259 | 1321 | -.234 | 1331 | -.255 | 1341 | -.138 | 1351 | -.305 | 1361 | -.216 | 1371 | -.157 | 1381 | -.129 | 1391 | -.131 | 1401 | -.156 |
| 141 | -.200 | 1421 | -.140 | 1431 | -.113 | 1441 | -.099 | 1451 | -.143 | 1461 | -.197 | 1471 | -.183 | 1481 | -.172 | 1491 | -.166 | 1501 | -.060 |
| 151 | -.101 | 1521 | -.094 | 1531 | -.092 | 1541 | -.144 | 1551 | .094 | 1561 | -.005 | 1571 | -.064 | 1581 | -.068 | 1591 | -.054 | 1601 | -.039 |
| 161 | -.033 | 1621 | -.027 | 1631 | .003 | 1641 | -.006 | 1651 | -.014 | 1661 | -.014 | 1671 | .093 | 1681 | -.103 | 1691 | -.023 | 1701 | .006 |
| 171 | .042 | 1721 | .035 | 1731 | .064 | 1741 | -.054 | 1751 | .004 | 1761 | .032 | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 12 | POINT= | 91 | ORIFICE (CP) | | | | 6 | 7 | 8 | 9 | 10 | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-------|-------|-------|-------|
| 11 | .309 | 21 | .313 | 31 | .201 | 41 | .089 | 51 | .049 | .043 | .051 | .058 | .029 |
| 11 | -.032 | 12 | -.035 | 13 | -.026 | 14 | -.047 | 15 | -.035 | -.049 | -.115 | -.116 | -.097 |
| 21 | -.194 | 22 | -.162 | 23 | -.178 | 24 | -.165 | 25 | -.084 | -.240 | -.230 | -.215 | -.221 |
| 31 | -.232 | 32 | -.226 | 33 | -.215 | 34 | -.127 | 35 | -.149 | -.189 | -.192 | -.188 | -.188 |
| 41 | -.155 | 42 | -.129 | 43 | -.157 | 44 | -.158 | 45 | -.165 | -.129 | -.065 | -.071 | -.079 |
| 51 | -.068 | 52 | -.097 | 53 | -.084 | 54 | -.074 | 55 | -.080 | -.235 | -.188 | -.156 | -.157 |
| 61 | -.154 | 62 | -.048 | 63 | -.087 | 64 | -.108 | 65 | -.232 | .028 | -.010 | -.020 | -.007 |
| 71 | .003 | 72 | -.017 | 73 | -.035 | 74 | -.056 | 75 | -.123 | -.142 | -.154 | .021 | .002 |
| 81 | .020 | 82 | .028 | 83 | -.001 | 84 | -.021 | 85 | .016 | .022 | .031 | .029 | .324 |
| 91 | .169 | 92 | .112 | 93 | .084 | 94 | .041 | 95 | .022 | .057 | .057 | .017 | .039 |
| 101 | -.021 | 102 | -.007 | 103 | -.078 | 104 | -.050 | 105 | -.115 | -.116 | -.108 | -.184 | -.136 |
| 111 | -.156 | 112 | -.138 | 113 | -.077 | 114 | -.058 | 115 | -.214 | -.191 | -.197 | -.207 | -.189 |
| 121 | -.150 | 122 | -.123 | 123 | -.159 | 124 | -.186 | 125 | -.196 | -.197 | -.194 | -.162 | -.138 |
| 131 | -.172 | 132 | -.177 | 133 | -.142 | 134 | -.068 | 135 | -.058 | -.069 | -.074 | -.070 | -.113 |
| 141 | -.088 | 142 | -.073 | 143 | -.072 | 144 | -.063 | 145 | -.191 | -.173 | -.164 | -.164 | -.036 |
| 151 | -.096 | 152 | -.106 | 153 | -.155 | 154 | -.244 | 155 | .032 | -.008 | .010 | .002 | -.018 |
| 161 | -.035 | 162 | -.052 | 163 | -.092 | 164 | -.122 | 165 | .013 | .030 | .008 | .034 | .028 |
| 171 | -.009 | 172 | -.020 | 173 | .022 | 174 | .023 | 175 | -.157 | .026 | .008 | .014 | .031 |

| RUN= | 13 | POINT= | 92 | ORIFICE (CP) | | | | 6 | 7 | 8 | 9 | 10 | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-------|-------|-------|-------|
| 11 | .453 | 21 | .416 | 31 | .185 | 41 | -.013 | 51 | -.103 | .192 | .195 | .165 | .072 |
| 11 | -.066 | 12 | -.075 | 13 | -.070 | 14 | .015 | 15 | .049 | -.046 | -.147 | -.140 | -.125 |
| 21 | -.094 | 22 | -.093 | 23 | -.206 | 24 | -.177 | 25 | -.124 | -.168 | -.161 | -.161 | -.235 |
| 31 | -.250 | 32 | -.234 | 33 | -.218 | 34 | -.080 | 35 | -.141 | -.216 | -.211 | -.199 | -.190 |
| 41 | .175 | 42 | .115 | 43 | .145 | 44 | -.164 | 45 | -.111 | -.200 | -.096 | -.076 | -.085 |
| 51 | -.044 | 52 | -.108 | 53 | -.095 | 54 | -.076 | 55 | -.056 | -.219 | -.160 | -.143 | -.138 |
| 61 | -.140 | 62 | -.049 | 63 | -.080 | 64 | -.096 | 65 | -.204 | .030 | .001 | -.041 | -.025 |
| 71 | -.009 | 72 | -.017 | 73 | -.027 | 74 | -.045 | 75 | -.081 | -.099 | -.100 | .012 | -.017 |
| 81 | -.016 | 82 | .017 | 83 | .020 | 84 | .027 | 85 | .024 | .018 | .020 | .439 | .428 |
| 91 | .161 | 92 | .042 | 93 | -.085 | 94 | -.118 | 95 | .172 | .170 | .092 | .044 | .089 |
| 101 | -.070 | 102 | .024 | 103 | .037 | 104 | .036 | 105 | -.140 | -.152 | -.136 | -.086 | -.067 |
| 111 | -.177 | 112 | -.155 | 113 | -.132 | 114 | -.130 | 115 | -.145 | -.135 | -.208 | -.218 | -.203 |
| 121 | -.142 | 122 | -.076 | 123 | -.113 | 124 | -.154 | 125 | -.207 | -.204 | -.194 | -.189 | -.123 |
| 131 | -.180 | 132 | -.178 | 133 | -.143 | 134 | -.100 | 135 | -.084 | -.069 | -.065 | -.067 | -.121 |
| 141 | -.095 | 142 | -.075 | 143 | -.065 | 144 | -.052 | 145 | -.209 | -.151 | -.146 | -.146 | -.049 |
| 151 | -.078 | 152 | -.090 | 153 | -.114 | 154 | -.205 | 155 | .035 | -.006 | -.003 | -.006 | -.004 |
| 161 | -.020 | 162 | -.036 | 163 | -.049 | 164 | -.085 | 165 | -.097 | .024 | -.004 | .014 | .031 |
| 171 | .022 | 172 | .030 | 173 | .021 | 174 | .020 | 175 | .024 | .024 | .008 | .014 | .031 |

APPENDIX CONTINUED.

RUN= 13 POINT= 93 ORIFICE(CP)

| | | | | | | | | | | | | | | | | | |
|-----|-------|-----|-------|-----|-------|-----|--|-----|-------|-------|-------|-----|-------|-----|-------|-----|-------|
| 11 | .461 | 21 | .511 | 31 | .379 | 41 | | 51 | 61 | 71 | .206 | 81 | .231 | 91 | .262 | 101 | .221 |
| 11 | .120 | 12 | .081 | 13 | .057 | 14 | | 15 | .068 | .130 | .107 | 18 | .011 | 19 | -.010 | 20 | -.015 |
| 21 | -.083 | 22 | -.023 | 23 | -.081 | 24 | | 25 | -.105 | -.143 | -.153 | 28 | -.150 | 29 | -.099 | 30 | -.117 |
| 31 | -.146 | 32 | -.152 | 33 | -.146 | 34 | | 35 | -.086 | -.090 | -.114 | 38 | -.136 | 39 | -.128 | 40 | -.129 |
| 41 | .153 | 42 | -.054 | 43 | -.103 | 44 | | 45 | -.120 | -.116 | -.029 | 48 | -.032 | 49 | -.039 | 50 | -.046 |
| 51 | -.047 | 52 | -.074 | 53 | -.058 | 54 | | 55 | -.053 | -.036 | -.289 | 58 | -.188 | 59 | -.150 | 60 | -.143 |
| 61 | -.140 | 62 | -.065 | 63 | -.093 | 64 | | 65 | -.116 | -.225 | -.005 | 68 | -.019 | 69 | -.025 | 70 | -.014 |
| 71 | -.021 | 72 | -.039 | 73 | -.049 | 74 | | 75 | -.090 | -.094 | -.101 | 78 | -.093 | 79 | -.004 | 80 | -.021 |
| 81 | .006 | 82 | .008 | 83 | -.005 | 84 | | 85 | .017 | -.004 | .008 | 88 | .027 | 89 | .411 | 90 | .326 |
| 91 | -.041 | 92 | -.104 | 93 | -.136 | 94 | | 95 | .164 | .131 | .069 | 98 | -.050 | 99 | -.214 | 100 | -.228 |
| 101 | -.193 | 102 | .015 | 103 | -.006 | 104 | | 105 | -.222 | -.286 | -.253 | 108 | -.228 | 109 | -.093 | 110 | -.156 |
| 111 | -.275 | 112 | -.219 | 113 | -.169 | 114 | | 115 | -.163 | -.179 | -.215 | 118 | -.325 | 119 | -.299 | 120 | -.261 |
| 121 | -.238 | 122 | -.101 | 123 | -.144 | 124 | | 125 | -.293 | -.263 | -.243 | 128 | -.229 | 129 | .133 | 130 | -.216 |
| 131 | -.217 | 132 | -.200 | 133 | -.170 | 134 | | 135 | -.379 | -.133 | -.097 | 138 | -.085 | 139 | -.078 | 140 | -.145 |
| 141 | -.110 | 142 | -.074 | 143 | -.066 | 144 | | 145 | -.143 | -.122 | -.122 | 148 | -.123 | 149 | -.117 | 150 | -.033 |
| 151 | -.043 | 152 | -.045 | 153 | -.136 | 154 | | 155 | .019 | .027 | .001 | 158 | -.016 | 159 | .002 | 160 | .007 |
| 161 | .003 | 162 | -.013 | 163 | -.061 | 164 | | 165 | -.078 | -.069 | .010 | 168 | .004 | 169 | .005 | 170 | .033 |
| 171 | .053 | 172 | .062 | 173 | .017 | 174 | | 175 | .030 | .028 | | | | | | | |

RUN= 13 POINT= 94 ORIFICE(CP)

| | | | | | | | | | | | | | | | | | |
|-----|-------|-----|-------|-----|-------|-----|--|-----|-------|-------|-------|-----|-------|-----|-------|-----|-------|
| 11 | .459 | 21 | .422 | 31 | .188 | 41 | | 51 | -.071 | 61 | .193 | 71 | .199 | 81 | .169 | 91 | .068 |
| 11 | -.062 | 12 | -.077 | 13 | -.071 | 14 | | 15 | .046 | .053 | -.041 | 17 | -.140 | 18 | -.139 | 19 | -.124 |
| 21 | -.083 | 22 | -.087 | 23 | -.209 | 24 | | 25 | -.129 | -.119 | -.165 | 27 | -.152 | 28 | -.155 | 29 | -.228 |
| 31 | -.243 | 32 | -.235 | 33 | -.214 | 34 | | 35 | -.099 | -.133 | -.202 | 37 | -.207 | 38 | -.193 | 39 | -.186 |
| 41 | .172 | 42 | -.110 | 43 | -.168 | 44 | | 45 | -.144 | -.106 | -.193 | 47 | -.087 | 48 | -.071 | 49 | -.082 |
| 51 | -.063 | 52 | -.104 | 53 | -.092 | 54 | | 55 | -.069 | -.051 | -.211 | 57 | -.157 | 58 | -.137 | 59 | -.135 |
| 61 | -.131 | 62 | -.061 | 63 | -.074 | 64 | | 65 | -.112 | -.204 | .032 | 67 | .002 | 68 | -.033 | 69 | -.027 |
| 71 | -.004 | 72 | -.011 | 73 | -.020 | 74 | | 75 | -.052 | -.083 | -.092 | 77 | -.089 | 78 | .022 | 80 | -.013 |
| 81 | -.013 | 82 | .024 | 83 | .034 | 84 | | 85 | .034 | .010 | .021 | 87 | .027 | 88 | .442 | 90 | .440 |
| 91 | .174 | 92 | .038 | 93 | -.083 | 94 | | 95 | .174 | .193 | .173 | 97 | .103 | 98 | -.031 | 100 | -.076 |
| 101 | -.071 | 102 | .032 | 103 | .035 | 104 | | 105 | -.057 | -.134 | -.136 | 107 | -.133 | 108 | -.075 | 110 | -.061 |
| 111 | -.172 | 112 | -.144 | 113 | -.120 | 114 | | 115 | -.152 | -.132 | -.128 | 117 | -.193 | 118 | -.212 | 120 | -.192 |
| 121 | -.179 | 122 | -.077 | 123 | -.108 | 124 | | 125 | -.206 | -.204 | -.199 | 127 | -.191 | 128 | .193 | 130 | -.118 |
| 131 | -.177 | 132 | -.176 | 133 | -.138 | 134 | | 135 | -.183 | -.072 | -.062 | 137 | -.060 | 138 | -.060 | 140 | -.117 |
| 141 | -.088 | 142 | -.064 | 143 | -.059 | 144 | | 145 | -.206 | -.152 | -.149 | 147 | -.142 | 148 | -.060 | 150 | -.046 |
| 151 | -.072 | 152 | -.079 | 153 | -.113 | 154 | | 155 | .034 | .022 | -.007 | 157 | -.004 | 158 | .008 | 160 | -.003 |
| 161 | -.014 | 162 | -.031 | 163 | -.043 | 164 | | 165 | -.085 | -.087 | .030 | 167 | -.000 | 168 | .016 | 170 | .034 |
| 171 | .029 | 172 | .026 | 173 | .029 | 174 | | 175 | .027 | .035 | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 13 | POINT= | 95 | OFFICE (CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|---------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | .461 | 21 | .522 | 31 | .381 | 41 | .146 | 51 | -.047 | 61 | -.138 | 71 | .202 | 81 | .227 | 91 | .267 | 101 | .226 |
| 11 | -.108 | 12 | .072 | 13 | .055 | 14 | .023 | 15 | .070 | 16 | .128 | 17 | .104 | 18 | .013 | 19 | -.014 | 20 | -.020 |
| 21 | -.091 | 22 | -.028 | 23 | -.086 | 24 | -.087 | 25 | -.114 | 26 | -.150 | 27 | -.155 | 28 | -.136 | 29 | -.099 | 30 | -.118 |
| 31 | -.152 | 32 | -.152 | 33 | -.150 | 34 | -.091 | 35 | -.089 | 36 | -.093 | 37 | -.113 | 38 | -.135 | 39 | -.135 | 40 | -.133 |
| 41 | .149 | 42 | -.055 | 43 | -.107 | 44 | -.118 | 45 | -.126 | 46 | -.121 | 47 | -.038 | 48 | -.032 | 49 | -.042 | 50 | -.047 |
| 51 | -.050 | 52 | -.079 | 53 | -.062 | 54 | -.050 | 55 | -.052 | 56 | -.035 | 57 | -.289 | 58 | -.191 | 59 | -.150 | 60 | -.145 |
| 61 | -.137 | 62 | -.061 | 63 | -.093 | 64 | -.105 | 65 | -.117 | 66 | -.228 | 67 | -.007 | 68 | -.019 | 69 | -.029 | 70 | -.024 |
| 71 | -.025 | 72 | -.041 | 73 | -.053 | 74 | -.071 | 75 | -.093 | 76 | -.098 | 77 | -.106 | 78 | -.100 | 79 | -.008 | 80 | -.025 |
| 81 | .003 | 82 | .005 | 83 | -.006 | 84 | .027 | 85 | .013 | 86 | .006 | 87 | .004 | 88 | .020 | 89 | .409 | 90 | .313 |
| 91 | -.045 | 92 | -.128 | 93 | -.138 | 94 | -.124 | 95 | .161 | 96 | .128 | 97 | .067 | 98 | -.069 | 99 | -.214 | 100 | -.229 |
| 101 | -.202 | 102 | .011 | 103 | -.007 | 104 | -.072 | 105 | -.224 | 106 | -.283 | 107 | -.249 | 108 | -.234 | 109 | -.098 | 110 | -.155 |
| 111 | -.286 | 112 | -.225 | 113 | -.168 | 114 | -.155 | 115 | -.162 | 116 | -.166 | 117 | -.213 | 118 | -.324 | 119 | -.299 | 120 | -.263 |
| 121 | -.240 | 122 | -.102 | 123 | -.151 | 124 | -.234 | 125 | -.303 | 126 | -.264 | 127 | -.248 | 128 | -.237 | 129 | .133 | 130 | -.219 |
| 131 | -.225 | 132 | -.203 | 133 | -.169 | 134 | -.107 | 135 | -.382 | 136 | -.134 | 137 | -.099 | 138 | -.084 | 139 | -.079 | 140 | -.152 |
| 141 | -.115 | 142 | -.077 | 143 | -.067 | 144 | -.059 | 145 | -.142 | 146 | -.125 | 147 | -.123 | 148 | -.123 | 149 | -.121 | 150 | -.031 |
| 151 | -.040 | 152 | -.063 | 153 | -.133 | 154 | -.212 | 155 | .010 | 156 | .020 | 157 | -.003 | 158 | -.036 | 159 | .004 | 160 | .008 |
| 161 | .003 | 162 | -.014 | 163 | -.054 | 164 | -.075 | 165 | -.074 | 166 | -.071 | 167 | .009 | 168 | .014 | 169 | .011 | 170 | .024 |
| 171 | .054 | 172 | .059 | 173 | .016 | 174 | .023 | 175 | .029 | 176 | .034 | | | | | | | | |

| RUN= | 13 | POINT= | 96 | OFFICE (CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|---------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | .352 | 21 | .575 | 31 | .676 | 41 | .435 | 51 | -.023 | 61 | -.256 | 71 | .128 | 81 | .202 | 91 | .321 | 101 | .452 |
| 11 | .442 | 12 | .388 | 13 | .329 | 14 | -.036 | 15 | .013 | 16 | .165 | 17 | .317 | 18 | .298 | 19 | .248 | 20 | .223 |
| 21 | -.145 | 22 | -.011 | 23 | .173 | 24 | .128 | 25 | -.077 | 26 | -.249 | 27 | -.198 | 28 | -.187 | 29 | -.097 | 30 | .065 |
| 31 | .069 | 32 | .052 | 33 | .040 | 34 | -.133 | 35 | -.125 | 36 | -.113 | 37 | .045 | 38 | .049 | 39 | .043 | 40 | .034 |
| 41 | .104 | 42 | -.058 | 43 | .057 | 44 | .033 | 45 | -.105 | 46 | -.195 | 47 | .192 | 48 | .079 | 49 | .076 | 50 | .067 |
| 51 | .057 | 52 | .038 | 53 | .035 | 54 | .055 | 55 | .049 | 56 | .056 | 57 | -.427 | 58 | -.239 | 59 | -.122 | 60 | -.104 |
| 61 | -.085 | 62 | -.191 | 63 | -.136 | 64 | -.107 | 65 | -.138 | 66 | -.178 | 67 | -.099 | 68 | -.089 | 69 | -.092 | 70 | -.101 |
| 71 | -.072 | 72 | -.058 | 73 | -.059 | 74 | -.080 | 75 | -.130 | 76 | -.162 | 77 | -.165 | 78 | -.161 | 79 | -.117 | 80 | -.095 |
| 81 | -.052 | 82 | -.034 | 83 | -.103 | 84 | -.098 | 85 | -.060 | 86 | -.050 | 87 | -.023 | 88 | -.007 | 89 | .239 | 90 | -.022 |
| 91 | -.465 | 92 | -.394 | 93 | -.264 | 94 | -.173 | 95 | .040 | 96 | -.074 | 97 | -.257 | 98 | -.452 | 99 | -.586 | 100 | -.493 |
| 101 | -.400 | 102 | -.087 | 103 | -.175 | 104 | -.364 | 105 | -.574 | 106 | -.540 | 107 | -.423 | 108 | -.361 | 109 | -.181 | 110 | -.441 |
| 111 | -.459 | 112 | -.317 | 113 | -.274 | 114 | -.217 | 115 | -.235 | 116 | -.306 | 117 | -.489 | 118 | -.589 | 119 | -.411 | 120 | -.333 |
| 121 | -.304 | 122 | -.197 | 123 | -.298 | 124 | -.499 | 125 | -.491 | 126 | -.331 | 127 | -.276 | 128 | -.256 | 129 | -.024 | 130 | -.523 |
| 131 | -.265 | 132 | -.210 | 133 | -.241 | 134 | -.181 | 135 | -.550 | 136 | -.258 | 137 | -.124 | 138 | -.079 | 139 | -.069 | 140 | -.167 |
| 141 | -.172 | 142 | -.062 | 143 | -.050 | 144 | -.043 | 145 | -.238 | 146 | -.165 | 147 | -.151 | 148 | -.135 | 149 | -.141 | 150 | -.084 |
| 151 | -.062 | 152 | -.093 | 153 | -.260 | 154 | -.279 | 155 | -.055 | 156 | -.070 | 157 | -.058 | 158 | -.050 | 159 | -.016 | 160 | -.012 |
| 161 | -.020 | 162 | -.068 | 163 | -.098 | 164 | -.129 | 165 | -.213 | 166 | -.193 | 167 | -.051 | 168 | -.051 | 169 | -.027 | 170 | .023 |
| 171 | .065 | 172 | .045 | 173 | -.028 | 174 | -.019 | 175 | -.008 | 176 | .012 | | | | | | | | |

ORIGINAL PAGE 15
OF POOR QUALITY

APPENDIX CONTINUED.

| RUN= | 15 | POINT= | 121 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 1.789 | 21 | .652 | 31 | -3.224 | 41 | -3.180 | 51 | -1.344 | 61 | -1.708 | 71 | 2.459 | 81 | 2.415 | 91 | .929 | 101 | -.732 |
| 111 | -3.209 | 121 | -3.763 | 131 | -3.734 | 141 | 3.129 | 151 | 2.852 | 161 | 2.036 | 171 | -1.198 | 181 | -2.364 | 191 | -1.723 | 201 | -2.131 |
| 21 | 2.969 | 221 | 1.118 | 231 | -1.592 | 241 | -1.898 | 251 | -3.253 | 261 | -.747 | 271 | 3.085 | 281 | 2.823 | 291 | 1.395 | 301 | -3.020 |
| 31 | -1.752 | 321 | -.907 | 331 | -.965 | 341 | 2.778 | 351 | 2.405 | 361 | .071 | 371 | -3.338 | 381 | -1.118 | 391 | -.731 | 401 | -.817 |
| 41 | 2.591 | 421 | .916 | 431 | -.703 | 441 | -.574 | 451 | -2.493 | 461 | -.545 | 471 | .142 | 481 | -.960 | 491 | -.516 | 501 | -.115 |
| 51 | -.230 | 521 | -.015 | 531 | -.459 | 541 | -.158 | 551 | -.056 | 561 | -.072 | 571 | -1.144 | 581 | -1.891 | 591 | -.717 | 601 | -.459 |
| 61 | -.402 | 621 | -.686 | 631 | -1.392 | 641 | -.561 | 651 | -.527 | 661 | -.128 | 671 | 3.026 | 681 | 2.765 | 691 | .601 | 701 | -3.089 |
| 71 | -1.688 | 721 | -.948 | 731 | -.857 | 741 | -1.483 | 751 | -.128 | 761 | -.048 | 771 | -.424 | 781 | -.128 | 791 | 3.448 | 801 | .031 |
| 81 | -2.998 | 821 | -2.098 | 831 | -1.028 | 841 | -.891 | 851 | 2.480 | 861 | -.071 | 871 | -3.282 | 881 | -2.166 | 891 | 1.703 | 901 | -.187 |
| 91 | -3.265 | 921 | -3.308 | 931 | -1.161 | 941 | -1.533 | 951 | 2.175 | 961 | 2.118 | 971 | -.144 | 981 | -2.721 | 991 | -3.265 | 1001 | -3.552 |
| 101 | -3.308 | 1021 | 3.035 | 1031 | 1.946 | 1041 | -.173 | 1051 | -2.764 | 1061 | -3.337 | 1071 | -2.349 | 1081 | -2.277 | 1091 | 3.077 | 1101 | .858 |
| 111 | -2.707 | 1121 | -1.705 | 1131 | -.243 | 1141 | -.559 | 1151 | 3.006 | 1161 | 2.490 | 1171 | .386 | 1181 | -2.664 | 1191 | -1.934 | 1201 | -1.203 |
| 121 | -1.146 | 1221 | 2.757 | 1231 | 2.383 | 1241 | 1.418 | 1251 | -1.416 | 1261 | -1.229 | 1271 | -.980 | 1281 | -.902 | 1291 | 2.461 | 1301 | .748 |
| 131 | -.995 | 1321 | -.591 | 1331 | -.310 | 1341 | -.373 | 1351 | .110 | 1361 | -1.011 | 1371 | -.432 | 1381 | -.342 | 1391 | -.295 | 1401 | .453 |
| 141 | .297 | 1421 | .328 | 1431 | .126 | 1441 | .079 | 1451 | 1.278 | 1461 | .017 | 1471 | -.157 | 1481 | .110 | 1491 | -.015 | 1501 | 1.025 |
| 151 | -1.026 | 1521 | -.472 | 1531 | -.000 | 1541 | -.045 | 1551 | 2.999 | 1561 | 2.660 | 1571 | -.057 | 1581 | -4.032 | 1591 | -2.221 | 1601 | -1.491 |
| 161 | -1.063 | 1621 | -1.240 | 1631 | -.611 | 1641 | -.057 | 1651 | -.133 | 1661 | -.258 | 1671 | 3.452 | 1681 | -.057 | 1691 | -4.045 | 1701 | -2.133 |
| 171 | -.434 | 1721 | -.460 | 1731 | 2.484 | 1741 | -.648 | 1751 | -2.485 | 1761 | -.2133 | | | | | | | | |

| RUN= | 15 | POINT= | 122 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | 1.350 | 21 | 1.149 | 31 | .466 | 41 | .313 | 51 | .750 | 61 | .575 | 71 | 1.505 | 81 | 1.465 | 91 | 1.200 | 101 | .949 |
| 111 | .470 | 121 | .456 | 131 | .416 | 141 | 1.521 | 151 | 1.479 | 161 | 1.264 | 171 | .754 | 181 | .547 | 191 | .549 | 201 | .440 |
| 21 | 1.554 | 221 | 1.260 | 231 | .717 | 241 | .691 | 251 | .880 | 261 | .886 | 271 | 1.525 | 281 | 1.535 | 291 | 1.258 | 301 | .575 |
| 31 | .705 | 321 | .756 | 331 | .699 | 341 | 1.514 | 351 | 1.465 | 361 | 1.169 | 371 | .632 | 381 | .849 | 391 | .806 | 401 | .784 |
| 41 | 1.459 | 421 | .997 | 431 | .759 | 441 | .849 | 451 | .757 | 461 | .950 | 471 | 1.058 | 481 | .628 | 491 | .843 | 501 | .915 |
| 51 | .894 | 521 | .970 | 531 | .966 | 541 | .952 | 551 | .978 | 561 | .968 | 571 | .993 | 581 | .635 | 591 | .841 | 601 | .966 |
| 61 | .945 | 621 | .737 | 631 | .779 | 641 | .808 | 651 | .967 | 661 | .976 | 671 | 1.487 | 681 | 1.381 | 691 | .835 | 701 | -.039 |
| 71 | .542 | 721 | .631 | 731 | .630 | 741 | .654 | 751 | .925 | 761 | .914 | 771 | .913 | 781 | .914 | 791 | 1.656 | 801 | 1.157 |
| 81 | .295 | 821 | .594 | 831 | .897 | 841 | .916 | 851 | 1.510 | 861 | .917 | 871 | .326 | 881 | .388 | 891 | 1.308 | 901 | .954 |
| 91 | .198 | 921 | .319 | 931 | .767 | 941 | .612 | 951 | 1.463 | 961 | 1.295 | 971 | 1.021 | 981 | .420 | 991 | .182 | 1001 | .254 |
| 101 | .358 | 1021 | 1.496 | 1031 | 1.455 | 1041 | 1.011 | 1051 | .428 | 1061 | .287 | 1071 | .495 | 1081 | .501 | 1091 | 1.537 | 1101 | 1.074 |
| 111 | .409 | 1121 | .653 | 1131 | .225 | 1141 | .896 | 1151 | 1.519 | 1161 | 1.476 | 1171 | .993 | 1181 | .366 | 1191 | .546 | 1201 | .727 |
| 121 | .741 | 1221 | 1.501 | 1231 | 1.427 | 1241 | .935 | 1251 | .470 | 1261 | .682 | 1271 | .812 | 1281 | .778 | 1291 | 1.452 | 1301 | 1.091 |
| 131 | .740 | 1321 | .820 | 1331 | .803 | 1341 | .963 | 1351 | .986 | 1361 | .869 | 1371 | .848 | 1381 | .950 | 1391 | .937 | 1401 | 1.069 |
| 141 | 1.040 | 1421 | 1.050 | 1431 | 1.031 | 1441 | .993 | 1451 | 1.088 | 1461 | .995 | 1471 | 1.014 | 1481 | 1.040 | 1491 | .997 | 1501 | 1.121 |
| 151 | .819 | 1521 | .908 | 1531 | .764 | 1541 | .982 | 1551 | 1.537 | 1561 | 1.554 | 1571 | 1.226 | 1581 | .677 | 1591 | .663 | 1601 | .786 |
| 161 | .749 | 1621 | .702 | 1631 | .926 | 1641 | .979 | 1651 | .946 | 1661 | .939 | 1671 | 1.559 | 1681 | .695 | 1691 | .299 | 1701 | .558 |
| 171 | .793 | 1721 | .912 | 1731 | 1.493 | 1741 | .841 | 1751 | .005 | 1761 | .366 | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 15 | POINT= | 123 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | 1.426 | 2 | 1.197 | 3 | -.023 | 4 | -.598 | 5 | .416 | 6 | .598 | 7 | 1.685 |
| 11 | .149 | 12 | .203 | 13 | .205 | 14 | 1.780 | 15 | 1.685 | 16 | 1.29 | 17 | .677 |
| 21 | 1.762 | 22 | 1.312 | 23 | .400 | 24 | .521 | 25 | .752 | 26 | .839 | 27 | 1.691 |
| 31 | .602 | 32 | .758 | 33 | .665 | 34 | 1.617 | 35 | 1.574 | 36 | 1.277 | 37 | .356 |
| 41 | 1.528 | 42 | 1.256 | 43 | .848 | 44 | .840 | 45 | .762 | 46 | .957 | 47 | 1.102 |
| 51 | .904 | 52 | .924 | 53 | .863 | 54 | .951 | 55 | .980 | 56 | .990 | 57 | .914 |
| 61 | .935 | 62 | .448 | 63 | .612 | 64 | .765 | 65 | .912 | 66 | .930 | 67 | 1.726 |
| 71 | .374 | 72 | .504 | 73 | .618 | 74 | .637 | 75 | .753 | 76 | .918 | 77 | .964 |
| 81 | .025 | 82 | .437 | 83 | .827 | 84 | .817 | 85 | 1.877 | 86 | .783 | 87 | .014 |
| 91 | -.263 | 92 | -.467 | 93 | .576 | 94 | .613 | 95 | 1.625 | 96 | 1.547 | 97 | 1.161 |
| 101 | .201 | 102 | 1.772 | 103 | 1.627 | 104 | 1.186 | 105 | .389 | 106 | .038 | 107 | .337 |
| 111 | .166 | 112 | .527 | 113 | .824 | 114 | .842 | 115 | 1.593 | 116 | 1.603 | 117 | 1.211 |
| 121 | .638 | 122 | 1.614 | 123 | 1.489 | 124 | 1.016 | 125 | .387 | 126 | .665 | 127 | .752 |
| 131 | .661 | 132 | .773 | 133 | .684 | 134 | .963 | 135 | .923 | 136 | .524 | 137 | .927 |
| 141 | .978 | 142 | 1.065 | 143 | 1.027 | 144 | 1.012 | 145 | 1.244 | 146 | 1.022 | 147 | .984 |
| 151 | .899 | 152 | .890 | 153 | .651 | 154 | .964 | 155 | 1.696 | 156 | 1.580 | 157 | 1.411 |
| 161 | .713 | 162 | .633 | 163 | .890 | 164 | .947 | 165 | .959 | 166 | .960 | 167 | 1.866 |
| 171 | .858 | 172 | .853 | 173 | 1.846 | 174 | .856 | 175 | -.427 | 176 | .095 | | |

| RUN= | 15 | POINT= | 124 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|--------|----------------|-------|-----|--------|-----|--------|-----|-------|-----|--------|
| 11 | 4.944 | 2 | 1.447 | 3 | 5.897 | 4 | 12.775 | 5 | 10.225 | 6 | 5.037 | 7 | 6.794 |
| 11 | 7.952 | 12 | 8.068 | 13 | 7.733 | 14 | 7.552 | 15 | 6.663 | 16 | 3.501 | 17 | 3.449 |
| 21 | 7.304 | 22 | 3.516 | 23 | 4.061 | 24 | 3.755 | 25 | 7.267 | 26 | 6.859 | 27 | 6.867 |
| 31 | 4.119 | 32 | 2.036 | 33 | 3.464 | 34 | 5.955 | 35 | 5.382 | 36 | 2.188 | 37 | 4.486 |
| 41 | 5.253 | 42 | 1.114 | 43 | 1.478 | 44 | 1.120 | 45 | 2.882 | 46 | 6.76 | 47 | .613 |
| 51 | 5.547 | 52 | .255 | 53 | 5.33 | 54 | 1.54 | 55 | .427 | 56 | 3.98 | 57 | 1.89 |
| 61 | 6.76 | 62 | 4.906 | 63 | 2.89 | 64 | 1.262 | 65 | 2.282 | 66 | 2.021 | 67 | 6.471 |
| 71 | 3.277 | 72 | 2.480 | 73 | 2.879 | 74 | 2.230 | 75 | 1.911 | 76 | 6.13 | 77 | .164 |
| 81 | 9.917 | 82 | 5.350 | 83 | 2.139 | 84 | 9.20 | 85 | 9.443 | 86 | .059 | 87 | 11.568 |
| 91 | 9.452 | 92 | 11.987 | 93 | 9.667 | 94 | 4.413 | 95 | 6.311 | 96 | 3.934 | 97 | .441 |
| 101 | 8.193 | 102 | 7.213 | 103 | 5.352 | 104 | .484 | 105 | 6.403 | 106 | 8.593 | 107 | 5.701 |
| 111 | 6.990 | 112 | 3.826 | 113 | 2.537 | 114 | 6.689 | 115 | 6.612 | 116 | 5.180 | 117 | 1.515 |
| 121 | 3.683 | 122 | 5.613 | 123 | 4.545 | 124 | .739 | 125 | 5.971 | 126 | 2.640 | 127 | 1.768 |
| 131 | 2.313 | 132 | 1.363 | 133 | 1.005 | 134 | 5.53 | 135 | .568 | 136 | 2.982 | 137 | 9.958 |
| 141 | 7.787 | 142 | .537 | 143 | .615 | 144 | .755 | 145 | 2.358 | 146 | 1.128 | 147 | .552 |
| 151 | 1.287 | 152 | 1.192 | 153 | 1.148 | 154 | .337 | 155 | 6.639 | 156 | 5.683 | 157 | 1.154 |
| 161 | 2.519 | 162 | 3.034 | 163 | 1.122 | 164 | 3.17 | 165 | .173 | 166 | 3.30 | 167 | 7.758 |
| 171 | 1.349 | 172 | 8.921 | 173 | 8.976 | 174 | 5.802 | 175 | 13.210 | 176 | 8.808 | | |

| | | | | | |
|-----|-------|-----|-------|-----|-------|
| 8 | 1.573 | 9 | 1.177 | 10 | .748 |
| 8 | .315 | 19 | .462 | 20 | .390 |
| 28 | 1.616 | 29 | 1.211 | 30 | .426 |
| 38 | .700 | 39 | .788 | 40 | .751 |
| 48 | .784 | 49 | .885 | 50 | .896 |
| 58 | .506 | 59 | .778 | 60 | .892 |
| 68 | 1.457 | 69 | .521 | 70 | .090 |
| 78 | .915 | 79 | 1.894 | 80 | 1.026 |
| 88 | .065 | 89 | 1.337 | 90 | .813 |
| 98 | .378 | 99 | .016 | 100 | .073 |
| 108 | .362 | 109 | 1.716 | 110 | 1.069 |
| 118 | .296 | 119 | .455 | 120 | .673 |
| 128 | .716 | 129 | 1.474 | 130 | .894 |
| 138 | .923 | 139 | .915 | 140 | 1.162 |
| 148 | 1.014 | 149 | .984 | 150 | 1.266 |
| 158 | .228 | 159 | .578 | 160 | .701 |
| 168 | .889 | 169 | .129 | 170 | .421 |

| | | | | | |
|-----|--------|-----|--------|-----|--------|
| 8 | 6.488 | 9 | 3.122 | 10 | -2.662 |
| 18 | -5.329 | 19 | -6.422 | 20 | -6.232 |
| 28 | 6.386 | 29 | 3.283 | 30 | -4.280 |
| 38 | -1.679 | 39 | -2.180 | 40 | -2.739 |
| 48 | -1.435 | 49 | 7.748 | 50 | -5.562 |
| 58 | 9.948 | 59 | 7.791 | 60 | 3.304 |
| 68 | 3.043 | 69 | 1.080 | 70 | 11.807 |
| 78 | 3.17 | 79 | 8.634 | 80 | 4.99 |
| 88 | -8.482 | 89 | 4.106 | 90 | 1.132 |
| 98 | -5.372 | 99 | 9.123 | 100 | 9.925 |
| 108 | -6.331 | 109 | 7.113 | 110 | .670 |
| 118 | 7.004 | 119 | 4.513 | 120 | 3.325 |
| 128 | -2.188 | 129 | 5.208 | 130 | 1.362 |
| 138 | .163 | 139 | 2.242 | 140 | 1.564 |
| 148 | .739 | 149 | .054 | 150 | 3.230 |
| 158 | -3.449 | 159 | -5.034 | 160 | -2.883 |
| 168 | .035 | 169 | -8.116 | 170 | -5.613 |

APPENDIX CONTINUED.

RUN= 15 POINT= 125 ORIFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 2.998 | 21 | 1.807 | 31 | -2.099 | 41 | -6.900 | 51 | -6.286 | 61 | -1.298 | 71 | 3.575 | 81 | 3.502 | 91 | 1.989 | 101 | .007 |
| 111 | -3.342 | 121 | -3.067 | 131 | -3.353 | 141 | -3.991 | 151 | 3.752 | 161 | 2.249 | 171 | -1.470 | 181 | -1.584 | 191 | -2.079 | 201 | -1.766 |
| 211 | 4.007 | 221 | 2.654 | 231 | -1.418 | 241 | -1.096 | 251 | -1.579 | 261 | -1.127 | 271 | 3.492 | 281 | 3.414 | 291 | 2.035 | 301 | -.934 |
| 311 | -5.34 | 321 | -5.49 | 331 | -3.26 | 341 | 3.265 | 351 | 3.076 | 361 | 1.639 | 371 | -1.888 | 381 | -.160 | 391 | .162 | 401 | .024 |
| 411 | 2.999 | 421 | 1.363 | 431 | -.017 | 441 | .484 | 451 | -.042 | 461 | -.216 | 471 | .791 | 481 | .177 | 491 | .494 | 501 | .632 |
| 511 | .540 | 521 | .944 | 531 | .658 | 541 | .893 | 551 | .873 | 561 | .949 | 571 | .704 | 581 | -.809 | 591 | .321 | 601 | .638 |
| 611 | .607 | 621 | -1.694 | 631 | -.873 | 641 | .261 | 651 | .858 | 661 | .822 | 671 | 3.752 | 681 | 2.708 | 691 | .326 | 701 | -4.564 |
| 711 | -.516 | 721 | -.463 | 731 | -.577 | 741 | .147 | 751 | .757 | 761 | .866 | 771 | .785 | 781 | .777 | 791 | 4.874 | 801 | -.121 |
| 811 | -4.243 | 821 | -.995 | 831 | .139 | 841 | -.285 | 851 | 4.809 | 861 | -.060 | 871 | -4.751 | 881 | -3.068 | 891 | 2.881 | 901 | -.165 |
| 911 | -4.739 | 921 | -5.515 | 931 | -4.601 | 941 | -1.028 | 951 | 3.459 | 961 | 2.815 | 971 | 1.190 | 981 | -2.188 | 991 | -3.573 | 1001 | -3.768 |
| 1011 | -3.420 | 1021 | 3.719 | 1031 | 3.09 | 1041 | 1.26 | 1051 | -1.943 | 1061 | -3.057 | 1071 | -2.357 | 1081 | -1.846 | 1091 | 3.862 | 1101 | .965 |
| 1111 | -1.948 | 1121 | -1.171 | 1131 | -.880 | 1141 | -.471 | 1151 | 3.310 | 1161 | 3.326 | 1171 | .622 | 1181 | -1.407 | 1191 | -1.509 | 1201 | -.354 |
| 1211 | -.477 | 1221 | 3.218 | 1231 | 2.757 | 1241 | 1.245 | 1251 | -1.495 | 1261 | -.561 | 1271 | -.028 | 1281 | .006 | 1291 | 2.907 | 1301 | 1.384 |
| 1311 | .000 | 1321 | .028 | 1331 | .011 | 1341 | .354 | 1351 | 1.145 | 1361 | .011 | 1371 | .411 | 1381 | .717 | 1391 | .595 | 1401 | 1.417 |
| 1411 | 1.151 | 1421 | 1.151 | 1431 | 1.262 | 1441 | 1.012 | 1451 | 1.251 | 1461 | .762 | 1471 | 1.028 | 1481 | 1.012 | 1491 | 1.017 | 1501 | 2.298 |
| 1511 | .278 | 1521 | .614 | 1531 | .044 | 1541 | .834 | 1551 | 3.789 | 1561 | 3.798 | 1571 | 1.256 | 1581 | -1.173 | 1591 | -.409 | 1601 | -.396 |
| 1611 | -.068 | 1621 | -.486 | 1631 | .040 | 1641 | .879 | 1651 | .870 | 1661 | .682 | 1671 | 4.808 | 1681 | 1.746 | 1691 | -1.738 | 1701 | -1.078 |
| 1711 | .017 | 1721 | .327 | 1731 | 4.669 | 1741 | .049 | 1751 | -4.966 | 1761 | -3.319 | | | | | | | | |

RUN= 15 POINT= 126 ORIFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | 1.496 | 21 | 1.155 | 31 | .066 | 41 | .005 | 51 | .554 | 61 | .552 | 71 | 1.646 | 81 | 1.548 | 91 | 1.311 | 101 | .727 |
| 111 | .179 | 121 | .173 | 131 | .234 | 141 | 1.719 | 151 | 1.680 | 161 | 1.447 | 171 | .607 | 181 | .248 | 191 | .358 | 201 | .431 |
| 211 | 1.719 | 221 | 1.344 | 231 | .524 | 241 | .506 | 251 | .473 | 261 | .544 | 271 | 1.658 | 281 | 1.638 | 291 | 1.256 | 301 | .307 |
| 311 | .526 | 321 | .656 | 331 | .725 | 341 | 1.600 | 351 | 1.560 | 361 | 1.220 | 371 | .456 | 381 | .679 | 391 | .724 | 401 | .786 |
| 411 | 1.542 | 421 | 1.121 | 431 | .800 | 441 | .854 | 451 | .759 | 461 | .955 | 471 | .865 | 481 | .519 | 491 | .846 | 501 | .416 |
| 511 | .924 | 521 | .976 | 531 | .867 | 541 | .943 | 551 | .947 | 561 | 1.017 | 571 | .854 | 581 | .722 | 591 | .914 | 601 | .951 |
| 611 | .902 | 621 | .702 | 631 | .550 | 641 | .755 | 651 | .953 | 661 | .964 | 671 | 1.653 | 681 | 1.643 | 691 | 1.279 | 701 | .403 |
| 711 | .278 | 721 | .459 | 731 | .631 | 741 | .568 | 751 | .804 | 761 | .949 | 771 | .946 | 781 | .972 | 791 | 1.863 | 801 | 1.146 |
| 811 | .019 | 821 | .414 | 831 | .789 | 841 | .765 | 851 | 1.857 | 861 | .938 | 871 | -.209 | 881 | .172 | 891 | 1.449 | 901 | .930 |
| 911 | -.352 | 921 | .009 | 931 | .639 | 941 | .625 | 951 | 1.641 | 961 | 1.534 | 971 | 1.025 | 981 | .430 | 991 | .114 | 1001 | .040 |
| 1011 | .187 | 1021 | 1.693 | 1031 | 1.494 | 1041 | .949 | 1051 | .249 | 1061 | .088 | 1071 | .362 | 1081 | .395 | 1091 | 1.701 | 1101 | 1.046 |
| 1111 | .203 | 1121 | .536 | 1131 | .761 | 1141 | .672 | 1151 | 1.641 | 1161 | 1.616 | 1171 | 1.001 | 1181 | .253 | 1191 | .445 | 1201 | .658 |
| 1211 | .693 | 1221 | 1.604 | 1231 | 1.518 | 1241 | 1.016 | 1251 | .219 | 1261 | .653 | 1271 | .738 | 1281 | .736 | 1291 | 1.547 | 1301 | 1.195 |
| 1311 | .664 | 1321 | .822 | 1331 | .708 | 1341 | .951 | 1351 | 1.092 | 1361 | .742 | 1371 | .854 | 1381 | .930 | 1391 | .917 | 1401 | 1.115 |
| 1411 | 1.016 | 1421 | 1.050 | 1431 | 1.075 | 1441 | 1.010 | 1451 | 1.223 | 1461 | 1.092 | 1471 | .092 | 1481 | 1.003 | 1491 | .999 | 1501 | 1.190 |
| 1511 | .839 | 1521 | .863 | 1531 | .766 | 1541 | .979 | 1551 | 1.693 | 1561 | 1.439 | 1571 | .717 | 1581 | .227 | 1591 | .565 | 1601 | .676 |
| 1611 | .645 | 1621 | .564 | 1631 | .884 | 1641 | .959 | 1651 | .950 | 1661 | .957 | 1671 | 1.776 | 1681 | .419 | 1691 | .012 | 1701 | .373 |
| 1711 | .862 | 1721 | .833 | 1731 | 1.808 | 1741 | .630 | 1751 | -.351 | 1761 | .158 | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 14 | POINT= | 129 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 3.481 | 21 | 1.306 | 31 | -5.994 | 41 | -7.203 | 51 | -2.672 | 61 | -2.395 | 71 | 4.993 | 81 | 3.302 | 91 | 2.209 | 101 | -1.390 |
| 111 | -5.834 | 121 | -5.688 | 131 | -5.018 | 141 | 5.065 | 151 | 5.561 | 161 | 1.466 | 171 | -2.803 | 181 | -5.207 | 191 | -4.144 | 201 | -3.765 |
| 211 | 5.517 | 221 | 3.113 | 231 | -3.473 | 241 | -2.759 | 251 | -1.783 | 261 | -1.011 | 271 | 5.590 | 281 | 5.430 | 291 | 1.423 | 301 | -4.071 |
| 311 | -2.147 | 321 | -1.492 | 331 | -1.594 | 341 | 4.569 | 351 | 4.283 | 361 | 2.334 | 371 | -4.511 | 381 | -2.105 | 391 | -1.274 | 401 | -1.231 |
| 411 | 4.082 | 421 | 2.120 | 431 | -1.904 | 441 | -1.045 | 451 | -1.503 | 461 | .058 | 471 | .187 | 481 | -1.718 | 491 | -3.315 | 501 | -4.011 |
| 511 | -1.186 | 521 | .187 | 531 | -3.343 | 541 | .244 | 551 | .244 | 561 | .330 | 571 | -3.721 | 581 | -3.151 | 591 | -1.074 | 601 | -6.731 |
| 611 | -5.002 | 621 | -3.440 | 631 | -2.324 | 641 | -1.378 | 651 | .034 | 661 | -.262 | 671 | 5.090 | 681 | 3.723 | 691 | 1.195 | 701 | -5.979 |
| 711 | -3.485 | 721 | -2.084 | 731 | -2.073 | 741 | -2.210 | 751 | -.103 | 761 | -.422 | 771 | -7.308 | 781 | -.285 | 791 | 6.730 | 801 | -.353 |
| 811 | -5.842 | 821 | -3.872 | 831 | -2.255 | 841 | -1.208 | 851 | 6.912 | 861 | .284 | 871 | -7.733 | 881 | -5.068 | 891 | 3.537 | 901 | -.629 |
| 911 | -7.502 | 921 | -6.729 | 931 | -2.104 | 941 | -1.189 | 951 | 4.496 | 961 | 4.124 | 971 | -.944 | 981 | -6.313 | 991 | -7.387 | 1001 | -6.628 |
| 1011 | -5.357 | 1021 | 4.969 | 1031 | 4.682 | 1041 | .774 | 1051 | -6.815 | 1061 | -5.998 | 1071 | -4.366 | 1081 | -3.708 | 1091 | 5.198 | 1101 | .072 |
| 1111 | -5.125 | 1121 | -3.178 | 1131 | -.801 | 1141 | -.701 | 1151 | 5.255 | 1161 | 4.353 | 1171 | 1.203 | 1181 | -5.913 | 1191 | -3.908 | 1201 | -2.147 |
| 1211 | -1.947 | 1221 | 4.456 | 1231 | 3.864 | 1241 | .906 | 1251 | -4.653 | 1261 | -2.784 | 1271 | -1.725 | 1281 | -1.492 | 1291 | 4.098 | 1301 | .470 |
| 1311 | -2.068 | 1321 | -1.118 | 1331 | -1.398 | 1341 | -.044 | 1351 | .283 | 1361 | -2.084 | 1371 | -.791 | 1381 | -.122 | 1391 | .159 | 1401 | 1.435 |
| 1411 | .563 | 1421 | .470 | 1431 | .361 | 1441 | .501 | 1451 | 2.245 | 1461 | -.184 | 1471 | -.028 | 1481 | .236 | 1491 | -.044 | 1501 | 2.317 |
| 1511 | -1.331 | 1521 | -.500 | 1531 | -1.582 | 1541 | -.148 | 1551 | 5.198 | 1561 | 3.34 | 1571 | .531 | 1581 | -3.771 | 1591 | -3.532 | 1601 | -1.796 |
| 1611 | -1.658 | 1621 | -2.752 | 1631 | -.312 | 1641 | -.287 | 1651 | -.186 | 1661 | -.224 | 1671 | 6.179 | 1681 | .254 | 1691 | -6.362 | 1701 | -4.073 |
| 1711 | -1.293 | 1721 | -1.004 | 1731 | 6.39 | 1741 | -2.827 | 1751 | -8.827 | 1761 | -5.118 | | | | | | | | |

| RUN= | 14 | POINT= | 130 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 2.155 | 21 | 1.150 | 31 | -5.786 | 41 | -9.225 | 51 | -2.653 | 61 | -1.837 | 71 | 5.288 | 81 | 4.647 | 91 | 1.820 | 101 | -4.417 |
| 111 | -4.340 | 121 | -5.888 | 131 | -4.825 | 141 | 5.812 | 151 | 5.404 | 161 | 3.525 | 171 | -2.100 | 181 | -5.116 | 191 | -4.489 | 201 | -4.417 |
| 211 | 6.293 | 221 | 2.956 | 231 | 3.353 | 241 | -3.688 | 251 | -2.114 | 261 | -.803 | 271 | 4.938 | 281 | 4.661 | 291 | 2.170 | 301 | -3.032 |
| 311 | -3.047 | 321 | -1.794 | 331 | -1.444 | 341 | 3.628 | 351 | 4.516 | 361 | 2.425 | 371 | -3.762 | 381 | -2.129 | 391 | -1.213 | 401 | -.969 |
| 411 | 4.430 | 421 | -.711 | 431 | -2.301 | 441 | -.711 | 451 | -1.513 | 461 | -.224 | 471 | .277 | 481 | -1.213 | 491 | -.468 | 501 | -.167 |
| 511 | -.253 | 521 | .091 | 531 | -.783 | 541 | .005 | 551 | .162 | 561 | .091 | 571 | .305 | 581 | -3.203 | 591 | -1.413 | 601 | -.697 |
| 611 | -.597 | 621 | -1.459 | 631 | -2.325 | 641 | -1.437 | 651 | .055 | 661 | .215 | 671 | 5.191 | 681 | 3.939 | 691 | .887 | 701 | -4.739 |
| 711 | -2.962 | 721 | -1.924 | 731 | -2.051 | 741 | -2.040 | 751 | -1.402 | 761 | -.127 | 771 | .044 | 781 | -.002 | 791 | 6.467 | 801 | .055 |
| 811 | -6.242 | 821 | -3.600 | 831 | -2.780 | 841 | -1.197 | 851 | 6.911 | 861 | -1.391 | 871 | -6.550 | 881 | -4.147 | 891 | 2.095 | 901 | -.711 |
| 911 | -7.412 | 921 | -6.772 | 931 | -1.957 | 941 | -2.100 | 951 | 4.873 | 961 | 4.042 | 971 | .420 | 981 | -5.192 | 991 | -7.555 | 1001 | -5.880 |
| 1011 | -4.734 | 1021 | 5.417 | 1031 | 4.114 | 1041 | .091 | 1051 | -5.444 | 1061 | -6.309 | 1071 | -4.519 | 1081 | -4.720 | 1091 | 5.989 | 1101 | .935 |
| 1111 | -5.450 | 1121 | -3.517 | 1131 | -1.155 | 1141 | -.754 | 1151 | 4.916 | 1161 | 4.672 | 1171 | -.181 | 1181 | -5.364 | 1191 | -3.560 | 1201 | -2.329 |
| 1211 | -1.771 | 1221 | 3.212 | 1231 | 3.804 | 1241 | .083 | 1251 | -4.993 | 1261 | -2.533 | 1271 | -1.381 | 1281 | -1.412 | 1291 | 3.991 | 1301 | 2.652 |
| 1311 | -1.646 | 1321 | -.805 | 1331 | -1.366 | 1341 | -.276 | 1351 | .550 | 1361 | -1.459 | 1371 | -.509 | 1381 | .145 | 1391 | -.260 | 1401 | 1.313 |
| 1411 | .736 | 1421 | .441 | 1431 | .347 | 1441 | .472 | 1451 | 1.484 | 1461 | -.898 | 1471 | -.135 | 1481 | -.089 | 1491 | .036 | 1501 | 1.797 |
| 1511 | -1.059 | 1521 | -.455 | 1531 | -1.801 | 1541 | .162 | 1551 | 5.231 | 1561 | 5.080 | 1571 | -.103 | 1581 | -5.184 | 1591 | -3.398 | 1601 | -2.266 |
| 1611 | -1.461 | 1621 | -2.379 | 1631 | -.631 | 1641 | -.254 | 1651 | -.354 | 1661 | .073 | 1671 | 5.935 | 1681 | -.015 | 1691 | -6.379 | 1701 | -4.115 |
| 1711 | -.631 | 1721 | -1.033 | 1731 | 6.350 | 1741 | -.304 | 1751 | -8.329 | 1761 | -4.140 | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 16 | POINT= | 131 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 3.456 | 21 | 1.679 | 31 | -6.365 | 41 | -8.685 | 51 | -7.108 | 61 | -2.955 | 71 | 6.006 | 81 | 5.015 | 91 | 1.999 | 101 | -1.512 |
| 111 | -5.622 | 121 | -6.335 | 131 | -5.840 | 141 | 5.729 | 151 | 5.569 | 161 | 2.917 | 171 | -1.352 | 181 | -4.064 | 191 | -3.990 | 201 | -3.800 |
| 211 | 5.773 | 221 | 7.383 | 231 | -3.086 | 241 | -2.358 | 251 | -1.585 | 261 | -2.769 | 271 | 5.715 | 281 | 5.001 | 291 | 2.684 | 301 | -3.421 |
| 311 | -2.838 | 321 | -1.600 | 331 | -2.008 | 341 | 4.735 | 351 | 4.391 | 361 | 2.272 | 371 | -2.240 | 381 | -1.037 | 391 | -1.381 | 401 | -2.913 |
| 411 | 4.248 | 421 | 1.498 | 431 | -0.922 | 441 | -0.879 | 451 | -1.538 | 461 | -2.264 | 471 | 1.040 | 481 | -1.796 | 491 | -1.066 | 501 | -2.206 |
| 511 | -4.478 | 521 | 3.471 | 531 | -0.522 | 541 | -0.037 | 551 | -1.099 | 561 | -0.006 | 571 | -0.049 | 581 | -3.314 | 591 | -0.965 | 601 | -0.321 |
| 611 | -6.622 | 621 | -5.356 | 631 | -2.828 | 641 | -2.065 | 651 | -1.744 | 661 | -0.858 | 671 | 4.187 | 681 | 3.880 | 691 | 0.634 | 701 | -5.390 |
| 711 | -5.310 | 721 | -3.648 | 731 | -3.192 | 741 | -2.759 | 751 | -1.313 | 761 | -0.482 | 771 | -0.482 | 781 | -0.436 | 791 | 5.258 | 801 | 1.853 |
| 811 | -5.641 | 821 | -5.037 | 831 | -2.520 | 841 | -2.384 | 851 | 6.146 | 861 | 4.748 | 871 | -8.510 | 881 | -6.369 | 891 | 2.557 | 901 | -0.865 |
| 911 | -8.109 | 921 | -8.725 | 931 | -2.769 | 941 | -2.712 | 951 | 5.736 | 961 | 4.318 | 971 | 1.612 | 981 | -3.757 | 991 | -6.835 | 1001 | -6.506 |
| 1011 | -5.904 | 1021 | 5.650 | 1031 | 4.547 | 1041 | 1.125 | 1051 | -5.103 | 1061 | -6.849 | 1071 | -4.859 | 1081 | -4.415 | 1091 | 5.635 | 1101 | 0.309 |
| 1111 | -5.174 | 1121 | -2.883 | 1131 | -1.208 | 1141 | -0.707 | 1151 | 5.564 | 1161 | 4.275 | 1171 | 4.811 | 1181 | -5.561 | 1191 | -3.757 | 1201 | -2.168 |
| 1211 | -2.454 | 1221 | 4.791 | 1231 | 4.059 | 1241 | 0.945 | 1251 | -5.921 | 1261 | -2.667 | 1271 | -1.484 | 1281 | -1.515 | 1291 | 4.028 | 1301 | 0.992 |
| 1311 | -2.060 | 1321 | -1.359 | 1331 | -1.484 | 1341 | -0.067 | 1351 | -0.067 | 1361 | -2.527 | 1371 | -0.830 | 1381 | -0.347 | 1391 | -0.394 | 1401 | 1.023 |
| 1411 | 0.151 | 1421 | 0.556 | 1431 | 0.447 | 1441 | 0.681 | 1451 | 2.051 | 1461 | 0.213 | 1471 | 0.509 | 1481 | 0.603 | 1491 | 0.182 | 1501 | 3.948 |
| 1511 | 0.086 | 1521 | -0.241 | 1531 | -1.549 | 1541 | -0.203 | 1551 | 5.344 | 1561 | 4.766 | 1571 | -0.844 | 1581 | -4.316 | 1591 | -2.027 | 1601 | -1.725 |
| 1611 | -1.637 | 1621 | -1.976 | 1631 | -1.071 | 1641 | 0.061 | 1651 | -0.354 | 1661 | -0.215 | 1671 | 6.602 | 1681 | -2.253 | 1691 | -5.637 | 1701 | -4.127 |
| 1711 | -0.618 | 1721 | -1.134 | 1731 | 5.898 | 1741 | -1.926 | 1751 | -9.712 | 1761 | -6.366 | | | | | | | | |

| RUN= | 16 | POINT= | 132 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 3.962 | 21 | 2.360 | 31 | -6.208 | 41 | -6.339 | 51 | -6.077 | 61 | -3.789 | 71 | 5.128 | 81 | 5.419 | 91 | 2.684 | 101 | -0.263 |
| 111 | -3.848 | 121 | -5.159 | 131 | -7.461 | 141 | 5.288 | 151 | 4.939 | 161 | 3.992 | 171 | -1.196 | 181 | -4.970 | 191 | -4.081 | 201 | -4.547 |
| 21 | 5.492 | 22 | 2.753 | 231 | -4.270 | 241 | -4.329 | 251 | -7.724 | 261 | -2.391 | 271 | 5.332 | 281 | 5.055 | 291 | 2.389 | 301 | -3.556 |
| 311 | -2.624 | 321 | -1.939 | 331 | -1.764 | 341 | 4.917 | 351 | 4.745 | 361 | 2.496 | 371 | -3.361 | 381 | -1.987 | 391 | -1.385 | 401 | -1.428 |
| 411 | 4.430 | 421 | 1.422 | 431 | -1.886 | 441 | -0.955 | 451 | -1.843 | 461 | -2.531 | 471 | -0.024 | 481 | -1.285 | 491 | -0.282 | 501 | -0.239 |
| 511 | -0.194 | 521 | 0.219 | 531 | -1.299 | 541 | 0.176 | 551 | 0.090 | 561 | 0.420 | 571 | -0.425 | 581 | -2.388 | 591 | -0.640 | 601 | -0.497 |
| 611 | 0.076 | 621 | -5.992 | 631 | -3.259 | 641 | -0.629 | 651 | -0.583 | 661 | 0.225 | 671 | 4.837 | 681 | 4.371 | 691 | -1.255 | 701 | -9.124 |
| 711 | -5.207 | 721 | -2.781 | 731 | -2.337 | 741 | -2.519 | 751 | -0.811 | 761 | -0.173 | 771 | 0.009 | 781 | 0.146 | 791 | 6.921 | 801 | 3.710 |
| 811 | -3.543 | 821 | -3.726 | 831 | -2.075 | 841 | -0.800 | 851 | 6.739 | 861 | 0.351 | 871 | -9.192 | 881 | -5.799 | 891 | 3.698 | 901 | -1.613 |
| 911 | -6.424 | 921 | -6.181 | 931 | -4.520 | 941 | -3.647 | 951 | 4.930 | 961 | 2.911 | 971 | -0.053 | 981 | -4.806 | 991 | -7.183 | 1001 | -6.625 |
| 1011 | -7.083 | 1021 | 4.930 | 1031 | 5.101 | 1041 | 0.792 | 1051 | -4.090 | 1061 | -5.651 | 1071 | -4.262 | 1081 | -4.591 | 1091 | 5.373 | 1101 | 0.892 |
| 1111 | -4.864 | 1121 | -2.530 | 1131 | -3.561 | 1141 | -1.141 | 1151 | 5.173 | 1161 | 4.300 | 1171 | 1.322 | 1181 | -5.250 | 1191 | -3.661 | 1201 | -1.971 |
| 1211 | -1.943 | 1221 | 4.868 | 1231 | 4.229 | 1241 | 0.243 | 1251 | -3.930 | 1261 | -3.058 | 1271 | -1.470 | 1281 | -1.735 | 1291 | 4.198 | 1301 | 0.632 |
| 1311 | -2.544 | 1321 | -1.268 | 1331 | -1.143 | 1341 | -0.333 | 1351 | 0.492 | 1361 | -3.385 | 1371 | -0.941 | 1381 | -0.224 | 1391 | -0.209 | 1401 | 0.975 |
| 1411 | 0.352 | 1421 | 0.212 | 1431 | 0.648 | 1441 | 0.663 | 1451 | 1.831 | 1461 | -0.396 | 1471 | 0.507 | 1481 | 0.414 | 1491 | 0.181 | 1501 | 2.846 |
| 1511 | -0.701 | 1521 | -0.575 | 1531 | -1.896 | 1541 | 0.230 | 1551 | 5.336 | 1561 | 5.840 | 1571 | 2.959 | 1581 | -2.563 | 1591 | -1.946 | 1601 | -1.557 |
| 1611 | -1.632 | 1621 | -2.638 | 1631 | -0.525 | 1641 | -0.047 | 1651 | -0.399 | 1661 | 0.091 | 1671 | 6.481 | 1681 | -4.487 | 1691 | -9.129 | 1701 | -3.619 |
| 1711 | -0.575 | 1721 | -1.066 | 1731 | 6.846 | 1741 | -3.770 | 1751 | -8.361 | 1761 | -6.839 | | | | | | | | |

APPENDIX CONTINUED.

RUN= 16 POINT= 133 OPIFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11(| 1.566) | 2(| 1.220) | 3(| .039) | 4(| -.569) | 5(| -.595) | 6(| .486) | 7(| 1.617) | 8(| 1.655) | 9(| 1.287) | 10(| -.836) |
| 11(| -.351) | 12(| 1.131) | 13(| .170) | 14(| 1.723) | 15(| 1.657) | 16(| 1.250) | 17(| .775) | 18(| .357) | 19(| .397) | 20(| .335) |
| 21(| 1.739) | 22(| 1.439) | 23(| .705) | 24(| .588) | 25(| -.174) | 26(| .637) | 27(| 1.721) | 28(| 1.659) | 29(| 1.224) | 30(| .568) |
| 31(| .665) | 32(| .673) | 33(| .631) | 34(| 1.636) | 35(| 1.623) | 36(| 1.281) | 37(| .364) | 38(| .782) | 39(| .769) | 40(| .784) |
| 41(| 1.597) | 42(| 1.253) | 43(| .700) | 44(| .808) | 45(| .507) | 46(| .939) | 47(| 1.075) | 48(| .644) | 49(| .796) | 50(| .905) |
| 51(| .966) | 52(| .966) | 53(| .956) | 54(| .805) | 55(| 1.003) | 56(| .974) | 57(| .925) | 58(| .515) | 59(| .771) | 60(| .872) |
| 61(| .931) | 62(| .193) | 63(| .656) | 64(| .427) | 65(| .866) | 66(| .976) | 67(| 1.716) | 68(| 1.503) | 69(| .448) | 70(| -.521) |
| 71(| .192) | 72(| .698) | 73(| .687) | 74(| .821) | 75(| .883) | 76(| .944) | 77(| .984) | 78(| .962) | 79(| 1.958) | 80(| .812) |
| 81(| .049) | 82(| .389) | 83(| .798) | 84(| .821) | 85(| 1.961) | 86(| .969) | 87(| -.096) | 88(| .109) | 89(| 1.505) | 90(| .995) |
| 91(| -.100) | 92(| -.515) | 93(| -.511) | 94(| .527) | 95(| 1.583) | 96(| 1.480) | 97(| 1.032) | 98(| .251) | 99(| -.100) | 100(| -.022) |
| 101(| .138) | 102(| 1.701) | 103(| 1.529) | 104(| 1.275) | 105(| .349) | 106(| .025) | 107(| .257) | 108(| .251) | 109(| 1.724) | 110(| 1.044) |
| 111(| .202) | 112(| .534) | 113(| .669) | 114(| .669) | 115(| 1.699) | 116(| 1.507) | 117(| 1.079) | 118(| .247) | 119(| .491) | 120(| .665) |
| 121(| .708) | 122(| 1.617) | 123(| 1.471) | 124(| .982) | 125(| .281) | 126(| .623) | 127(| .748) | 128(| .782) | 129(| 1.568) | 130(| 1.029) |
| 131(| .731) | 132(| .797) | 133(| .865) | 134(| .950) | 135(| .935) | 136(| .700) | 137(| .867) | 138(| .935) | 139(| .899) | 140(| 1.116) |
| 141(| 1.010) | 142(| 1.018) | 143(| 1.012) | 144(| 1.031) | 145(| 1.263) | 146(| .925) | 147(| 1.001) | 148(| 1.039) | 149(| 1.018) | 150(| 1.408) |
| 151(| .936) | 152(| .909) | 153(| .734) | 154(| .943) | 155(| 1.785) | 156(| 1.746) | 157(| 1.382) | 158(| .610) | 159(| .663) | 160(| .795) |
| 161(| .697) | 162(| .682) | 163(| .921) | 164(| .972) | 165(| .975) | 166(| .950) | 167(| 1.945) | 168(| .895) | 169(| -.143) | 170(| .378) |
| 171(| .785) | 172(| .833) | 173(| 1.894) | 174(| .476) | 175(| -.564) | 176(| .063) | | | | | | | | |

RUN= 16 POINT= 134 OPIFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|------|---------|------|----------|------|---------|------|----------|------|----------|------|---------|------|----------|------|---------|------|----------|------|---------|
| 11(| 3.755) | 2(| 2.152) | 3(| -5.352) | 4(| -11.093) | 5(| -12.302) | 6(| -3.385) | 7(| 4.775) | 8(| 4.280) | 9(| 3.260) | 10(| -1.272) |
| 11(| -5.060) | 12(| -4.011) | 13(| -6.809) | 14(| 5.547) | 15(| 5.159) | 16(| 2.721) | 17(| -1.738) | 18(| -4.361) | 19(| -4.186) | 20(| -5.483) |
| 21(| 5.679) | 22(| 2.385) | 23(| -3.618) | 24(| -3.661) | 25(| -9.155) | 26(| -3.545) | 27(| 5.300) | 28(| 4.863) | 29(| 2.094) | 30(| -3.210) |
| 31(| -3.122) | 32(| -2.117) | 33(| -2.219) | 34(| 4.654) | 35(| 4.669) | 36(| .916) | 37(| -3.423) | 38(| -1.948) | 39(| -1.261) | 40(| -1.404) |
| 41(| 4.196) | 42(| 1.317) | 43(| -1.574) | 44(| -1.289) | 45(| -1.834) | 46(| -1.705) | 47(| .358) | 48(| -2.020) | 49(| -1.318) | 50(| -1.632) |
| 51(| -1.075) | 52(| -.144) | 53(| -1.003) | 54(| -.101) | 55(| .229) | 56(| .114) | 57(| .043) | 58(| -5.515) | 59(| -.115) | 60(| -1.118) |
| 61(| -.731) | 62(| -6.652) | 63(| -3.145) | 64(| -1.460) | 65(| -.628) | 66(| -.241) | 67(| 4.485) | 68(| 3.130) | 69(| -.366) | 70(| -8.326) |
| 71(| -5.536) | 72(| -3.452) | 73(| -2.200) | 74(| -1.596) | 75(| -.537) | 76(| -.287) | 77(| -.139) | 78(| -.332) | 79(| 7.355) | 80(| 2.868) |
| 81(| -5.024) | 82(| -4.272) | 83(| -.708) | 84(| -.788) | 85(| 7.195) | 86(| .306) | 87(| -10.012) | 88(| -5.901) | 89(| 3.207) | 90(| -.301) |
| 91(| -9.736) | 92(| -10.395) | 93(| -9.364) | 94(| -3.136) | 95(| 4.653) | 96(| 3.379) | 97(| -.172) | 98(| -4.381) | 99(| -7.918) | 100(| -6.429) |
| 101(| -6.658) | 102(| 5.512) | 103(| 4.495) | 104(| 1.317) | 105(| -5.212) | 106(| -6.772) | 107(| -5.183) | 108(| -5.470) | 109(| 5.483) | 110(| 1.159) |
| 111(| -4.554) | 112(| -3.623) | 113(| -4.224) | 114(| -2.864) | 115(| 5.240) | 116(| 4.796) | 117(| 1.088) | 118(| -4.983) | 119(| -3.265) | 120(| -2.205) |
| 121(| -1.890) | 122(| 4.558) | 123(| 4.154) | 124(| 1.102) | 125(| -4.472) | 126(| -2.604) | 127(| -1.888) | 128(| -1.093) | 129(| 4.029) | 130(| .432) |
| 131(| -1.854) | 132(| -1.062) | 133(| -1.872) | 134(| -1.125) | 135(| .090) | 136(| -1.919) | 137(| -.953) | 138(| .152) | 139(| .028) | 140(| 1.242) |
| 141(| -.128) | 142(| .308) | 143(| .339) | 144(| .277) | 145(| 1.553) | 146(| .650) | 147(| .230) | 148(| .323) | 149(| .152) | 150(| 2.680) |
| 151(| -.716) | 152(| -.503) | 153(| -2.641) | 154(| -.264) | 155(| 4.994) | 156(| 4.416) | 157(| 1.912) | 158(| -3.559) | 159(| -1.786) | 160(| -1.962) |
| 161(| -1.710) | 162(| -2.742) | 163(| -1.723) | 164(| -.213) | 165(| -.565) | 166(| -.515) | 167(| 6.680) | 168(| -3.685) | 169(| -10.553) | 170(| -4.754) |
| 171(| -.565) | 172(| -.565) | 173(| 6.277) | 174(| -4.553) | 175(| -8.603) | 176(| -6.377) | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 17 | POINT= | 135 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | 1.426 | 21 | 1.170 | 31 | .034 | 41 | -.915 | 61 | .662 | 71 | 1.686 | 81 | 1.531 |
| 11 | .084 | 12 | .128 | 13 | .185 | 14 | 1.720 | 16 | 1.293 | 17 | .477 | 18 | .318 |
| 21 | 1.728 | 22 | 1.363 | 23 | .624 | 24 | .330 | 26 | .612 | 27 | 1.672 | 28 | 1.575 |
| 31 | .604 | 32 | .719 | 33 | .689 | 34 | 1.626 | 36 | 1.273 | 37 | .312 | 38 | .558 |
| 41 | 1.563 | 42 | 1.390 | 43 | .787 | 44 | .855 | 46 | .958 | 47 | .990 | 48 | .619 |
| 51 | .921 | 52 | 1.029 | 53 | .890 | 54 | .935 | 56 | .968 | 57 | .902 | 58 | .548 |
| 61 | .816 | 62 | .227 | 63 | .672 | 64 | .831 | 66 | .919 | 67 | 1.620 | 68 | 1.166 |
| 71 | .525 | 72 | .627 | 73 | .678 | 74 | .767 | 76 | .862 | 77 | .952 | 78 | .961 |
| 81 | -.102 | 82 | .413 | 83 | .903 | 84 | .876 | 86 | .725 | 87 | -.111 | 88 | .182 |
| 91 | -.207 | 92 | -.517 | 93 | .016 | 94 | .693 | 96 | 1.516 | 97 | 1.038 | 98 | .410 |
| 101 | .115 | 102 | 1.700 | 103 | 1.608 | 104 | 1.068 | 106 | .051 | 107 | .359 | 108 | .379 |
| 111 | .295 | 112 | .541 | 113 | .837 | 114 | .714 | 116 | 1.596 | 117 | 1.062 | 118 | .270 |
| 121 | .656 | 122 | 1.627 | 123 | 1.536 | 124 | .974 | 126 | .685 | 127 | .734 | 128 | .742 |
| 131 | .700 | 132 | .783 | 133 | .817 | 134 | .948 | 136 | .774 | 137 | .899 | 138 | .965 |
| 141 | .986 | 142 | 1.031 | 143 | 1.054 | 144 | 1.010 | 146 | .815 | 147 | 1.010 | 148 | 1.027 |
| 151 | .880 | 152 | .914 | 153 | .701 | 154 | .938 | 156 | 1.721 | 157 | 1.485 | 158 | .381 |
| 161 | .766 | 162 | .590 | 163 | .900 | 164 | .912 | 166 | .960 | 167 | 1.850 | 168 | 1.102 |
| 171 | .873 | 172 | .876 | 173 | 1.910 | 174 | .736 | 176 | .196 | 177 | | 178 | |

| RUN= | 17 | POINT= | 136 | ORIFICE (CP) | | | | | | | | | |
|------|--------|--------|---------|----------------|--------|-----|--------|-----|--------|-----|---------|-----|--------|
| 11 | 3.710 | 21 | .403 | 31 | -4.420 | 41 | -6.081 | 61 | -3.779 | 71 | 5.197 | 81 | 4.949 |
| 11 | -5.775 | 12 | -5.411 | 13 | -5.819 | 14 | 5.109 | 16 | 2.384 | 17 | -2.628 | 18 | -4.828 |
| 21 | 5.459 | 22 | 3.157 | 23 | -3.575 | 24 | -2.963 | 26 | -.690 | 27 | 5.546 | 28 | 4.657 |
| 31 | -3.954 | 32 | -2.482 | 33 | -2.089 | 34 | 4.827 | 36 | 2.707 | 37 | -3.838 | 38 | -2.119 |
| 41 | 4.283 | 42 | .774 | 43 | -1.733 | 44 | -.859 | 46 | -.200 | 47 | .960 | 48 | -1.059 |
| 51 | -.386 | 52 | -.014 | 53 | -.386 | 54 | -.057 | 56 | .144 | 57 | -.129 | 58 | -1.976 |
| 61 | -.186 | 62 | -5.011 | 63 | -3.576 | 64 | -.604 | 66 | .022 | 67 | 5.682 | 68 | 4.042 |
| 71 | -4.726 | 72 | -3.929 | 73 | -2.130 | 74 | -1.583 | 76 | -.433 | 77 | -.114 | 78 | .056 |
| 81 | -7.311 | 82 | -3.884 | 83 | -.980 | 84 | -2.062 | 86 | 6.616 | 87 | -10.500 | 88 | -6.298 |
| 91 | -7.931 | 92 | -11.439 | 93 | -5.755 | 94 | -3.822 | 96 | 4.095 | 97 | -4.58 | 98 | -5.369 |
| 101 | -5.827 | 102 | 5.627 | 103 | 4.639 | 104 | 1.647 | 106 | -6.213 | 107 | -4.753 | 108 | -4.767 |
| 111 | -5.039 | 112 | -2.963 | 113 | -1.417 | 114 | -.587 | 116 | 5.112 | 117 | .716 | 118 | -4.782 |
| 121 | -2.004 | 122 | 4.752 | 123 | 4.456 | 124 | .439 | 126 | -1.757 | 127 | -1.492 | 128 | -1.352 |
| 131 | -1.975 | 132 | -1.336 | 133 | -1.570 | 134 | -.153 | 136 | -3.002 | 137 | -1.025 | 138 | -.589 |
| 141 | -.050 | 142 | .688 | 143 | .781 | 144 | .221 | 146 | 1.544 | 147 | .766 | 148 | .626 |
| 151 | -.475 | 152 | -.224 | 153 | -1.205 | 154 | .066 | 156 | 5.613 | 157 | 2.971 | 158 | -3.720 |
| 161 | -1.582 | 162 | -1.746 | 163 | -.375 | 164 | -.526 | 166 | -.123 | 167 | 6.606 | 168 | .908 |
| 171 | -2.060 | 172 | -1.079 | 173 | 6.242 | 174 | 1.550 | 176 | -6.488 | 177 | | 178 | |

APPENDIX CONTINUED.

| RUN= | 17 | POINT= | 137 | ORIFICE (CP) | | | | | | | | | |
|------|--------|--------|--------|----------------|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| 11 | 4.308 | 21 | .781 | 31 | -6.956 | 41 | -7.509 | 51 | -2.074 | 61 | -3.502 | 71 | 5.415 |
| 11 | -7.101 | 12 | -6.344 | 13 | -5.513 | 14 | 6.129 | 15 | 5.328 | 16 | 1.583 | 17 | -1.288 |
| 21 | 5.503 | 22 | .680 | 23 | -4.012 | 24 | -2.818 | 25 | -9.23 | 26 | -1.331 | 27 | 5.517 |
| 31 | -2.745 | 32 | -1.895 | 33 | -1.972 | 34 | 4.784 | 35 | 4.369 | 36 | 1.533 | 37 | -5.070 |
| 41 | 4.412 | 42 | .315 | 43 | -1.575 | 44 | -6.58 | 45 | -2.277 | 46 | -1.143 | 47 | .616 |
| 51 | -3.15 | 52 | -0.28 | 53 | -2.72 | 54 | -1.100 | 55 | .043 | 56 | .144 | 57 | -4.29 |
| 61 | -4.87 | 62 | -5.148 | 63 | -3.144 | 64 | -1.879 | 65 | -1.014 | 66 | -1.171 | 67 | 5.306 |
| 71 | -3.850 | 72 | -2.540 | 73 | -2.586 | 74 | -2.392 | 75 | -6.84 | 76 | -1.126 | 77 | .250 |
| 81 | -7.106 | 82 | -4.282 | 83 | -8.66 | 84 | -6.27 | 85 | 6.889 | 86 | -5.24 | 87 | -9.805 |
| 91 | -7.101 | 92 | -7.287 | 93 | -2.663 | 94 | -3.579 | 95 | 5.427 | 96 | 4.596 | 97 | 1.203 |
| 101 | -5.469 | 102 | 6.257 | 103 | 5.126 | 104 | 2.434 | 105 | -4.925 | 106 | -4.867 | 107 | -4.040 |
| 111 | -3.822 | 112 | -2.863 | 113 | -1.374 | 114 | -1.231 | 115 | 5.498 | 116 | 5.126 | 117 | 2.363 |
| 121 | -1.947 | 122 | 4.845 | 123 | 3.880 | 124 | .875 | 125 | -3.890 | 126 | -9.31 | 127 | -1.243 |
| 131 | -1.134 | 132 | -1.149 | 133 | -1.585 | 134 | -3.09 | 135 | .439 | 136 | -2.520 | 137 | -8.54 |
| 141 | .470 | 142 | .844 | 143 | .735 | 144 | .781 | 145 | 2.214 | 146 | .268 | 147 | .828 |
| 151 | -.098 | 152 | -.312 | 153 | -1.871 | 154 | -.098 | 155 | 5.688 | 156 | 3.789 | 157 | 1.160 |
| 161 | -1.419 | 162 | -2.425 | 163 | -.752 | 164 | -.073 | 165 | .028 | 166 | -.249 | 167 | 6.317 |
| 171 | -1.607 | 172 | -.978 | 173 | 6.569 | 174 | -1.821 | 175 | -7.305 | 176 | -6.764 | | |

| RUN= | 17 | POINT= | 138 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|--------|----------------|--------|-----|--------|-----|-------|-----|-------|-----|-------|
| 11 | 1.785 | 21 | 1.137 | 31 | -.730 | 41 | -1.344 | 51 | -.985 | 61 | .179 | 71 | 1.898 |
| 11 | -5.42 | 12 | -2.56 | 13 | -.157 | 14 | 2.101 | 15 | 1.947 | 16 | 1.363 | 17 | -.027 |
| 21 | 2.037 | 22 | 1.244 | 23 | .153 | 24 | .323 | 25 | .390 | 26 | .648 | 27 | 1.947 |
| 31 | .318 | 32 | .491 | 33 | .587 | 34 | 1.894 | 35 | 1.800 | 36 | 1.029 | 37 | .062 |
| 41 | 1.815 | 42 | .970 | 43 | .486 | 44 | .753 | 45 | .665 | 46 | .950 | 47 | 1.149 |
| 51 | .844 | 52 | .987 | 53 | .918 | 54 | .952 | 55 | .964 | 56 | 1.007 | 57 | .876 |
| 61 | .887 | 62 | .053 | 63 | .143 | 64 | .677 | 65 | .928 | 66 | .953 | 67 | 1.718 |
| 71 | .026 | 72 | .408 | 73 | .365 | 74 | .698 | 75 | .815 | 76 | .956 | 77 | .908 |
| 81 | -.633 | 82 | .080 | 83 | .870 | 84 | .784 | 85 | 2.340 | 86 | .245 | 87 | -.895 |
| 91 | -.458 | 92 | -1.215 | 93 | -1.198 | 94 | .258 | 95 | 1.931 | 96 | 1.823 | 97 | 1.291 |
| 101 | -.148 | 102 | 2.144 | 103 | 1.928 | 104 | 1.328 | 105 | .224 | 106 | -.117 | 107 | -.003 |
| 111 | -.000 | 112 | .426 | 113 | -.128 | 114 | .660 | 115 | 2.013 | 116 | 1.917 | 117 | 1.493 |
| 121 | .546 | 122 | 1.910 | 123 | 1.858 | 124 | 1.357 | 125 | .197 | 126 | .546 | 127 | .735 |
| 131 | .664 | 132 | .642 | 133 | .642 | 134 | .954 | 135 | .843 | 136 | .911 | 137 | .927 |
| 141 | .945 | 142 | 1.077 | 143 | 1.026 | 144 | 1.044 | 145 | 1.422 | 146 | 1.171 | 147 | 1.053 |
| 151 | .903 | 152 | .906 | 153 | .653 | 154 | .853 | 155 | 1.758 | 156 | 1.628 | 157 | .988 |
| 161 | .636 | 162 | .359 | 163 | .731 | 164 | .871 | 165 | .941 | 166 | .893 | 167 | 2.230 |
| 171 | .746 | 172 | .776 | 173 | 2.39 | 174 | .888 | 175 | -.916 | 176 | -.336 | | |

APPENDIX CONTINUED.

| PUN= | 17 | POINT= | 139 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | 1.377 | 2 | 1.114 | 3 | .389 | 4 | -.226 | 5 | -.226 | 6 | .727 | 7 | 1.498 |
| 11 | .374 | 12 | .466 | 13 | .410 | 14 | 1.569 | 15 | 1.464 | 16 | 1.348 | 17 | .829 |
| 21 | 1.551 | 22 | 1.147 | 23 | .619 | 24 | .682 | 25 | .395 | 26 | .819 | 27 | 1.515 |
| 31 | .676 | 32 | .724 | 33 | .760 | 34 | 1.460 | 35 | 1.443 | 36 | 1.146 | 37 | .404 |
| 41 | 1.444 | 42 | 1.208 | 43 | .810 | 44 | .872 | 45 | .751 | 46 | .947 | 47 | 1.009 |
| 51 | .974 | 52 | 1.033 | 53 | .940 | 54 | .940 | 55 | .972 | 56 | .987 | 57 | .978 |
| 61 | .909 | 62 | .717 | 63 | .740 | 64 | .861 | 65 | .990 | 66 | .924 | 67 | 1.518 |
| 71 | .630 | 72 | .698 | 73 | .705 | 74 | .758 | 75 | .975 | 76 | .971 | 77 | .938 |
| 81 | .151 | 82 | .580 | 83 | .883 | 84 | .934 | 85 | 1.694 | 86 | 1.061 | 87 | 1.142 |
| 91 | .041 | 92 | -.115 | 93 | .154 | 94 | .692 | 95 | 1.459 | 96 | 1.388 | 97 | 1.124 |
| 101 | .325 | 102 | 1.510 | 103 | 1.425 | 104 | 1.012 | 105 | .403 | 106 | .267 | 107 | .432 |
| 111 | .450 | 112 | .615 | 113 | .864 | 114 | .839 | 115 | 1.457 | 116 | 1.394 | 117 | 1.121 |
| 121 | .720 | 122 | 1.451 | 123 | 1.306 | 124 | 1.079 | 125 | .580 | 126 | .755 | 127 | .803 |
| 131 | .824 | 132 | .833 | 133 | .827 | 134 | .949 | 135 | .946 | 136 | .573 | 137 | .852 |
| 141 | .934 | 142 | 1.014 | 143 | 1.047 | 144 | .998 | 145 | 1.090 | 146 | 1.076 | 147 | 1.040 |
| 151 | .941 | 152 | .925 | 153 | .844 | 154 | .949 | 155 | 1.547 | 156 | 1.542 | 157 | 1.354 |
| 161 | .798 | 162 | .710 | 163 | .906 | 164 | .952 | 165 | .930 | 166 | .932 | 167 | 1.599 |
| 171 | .810 | 172 | .897 | 173 | 1.620 | 174 | .612 | 175 | -.067 | 176 | .343 | | |

| PUN= | 17 | POINT= | 140 | ORIFICE (CP) | | | | | | | | | |
|------|-------|--------|-------|----------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 11 | 1.496 | 2 | 1.268 | 3 | .153 | 4 | -.233 | 5 | -.090 | 6 | .461 | 7 | 1.682 |
| 11 | .569 | 12 | .390 | 13 | .198 | 14 | 1.759 | 15 | 1.684 | 16 | 1.346 | 17 | .546 |
| 21 | 1.717 | 22 | 1.461 | 23 | .615 | 24 | .585 | 25 | .600 | 26 | .843 | 27 | 1.670 |
| 31 | .719 | 32 | .767 | 33 | .686 | 34 | 1.618 | 35 | 1.612 | 36 | 1.306 | 37 | .354 |
| 41 | 1.585 | 42 | 1.209 | 43 | .757 | 44 | .802 | 45 | .745 | 46 | .949 | 47 | 1.025 |
| 51 | .883 | 52 | .978 | 53 | .955 | 54 | .978 | 55 | .986 | 56 | .980 | 57 | .819 |
| 61 | .595 | 62 | .378 | 63 | .582 | 64 | .869 | 65 | .909 | 66 | .981 | 67 | 1.607 |
| 71 | .440 | 72 | .571 | 73 | .582 | 74 | .707 | 75 | .883 | 76 | .916 | 77 | .949 |
| 81 | -.144 | 82 | .391 | 83 | .842 | 84 | .855 | 85 | 1.886 | 86 | .910 | 87 | -.172 |
| 91 | -.183 | 92 | -.162 | 93 | .257 | 94 | .509 | 95 | 1.621 | 96 | 1.505 | 97 | .829 |
| 101 | .145 | 102 | 1.747 | 103 | 1.672 | 104 | 1.088 | 105 | .302 | 106 | 1.117 | 107 | .292 |
| 111 | .247 | 112 | .538 | 113 | .774 | 114 | .846 | 115 | 1.621 | 116 | 1.631 | 117 | 1.088 |
| 121 | .633 | 122 | 1.591 | 123 | 1.534 | 124 | .984 | 125 | .462 | 126 | .658 | 127 | .717 |
| 131 | .696 | 132 | .774 | 133 | .807 | 134 | .634 | 135 | 1.039 | 136 | .793 | 137 | .871 |
| 141 | .984 | 142 | .945 | 143 | 1.016 | 144 | .949 | 145 | 1.206 | 146 | .984 | 147 | .946 |
| 151 | .853 | 152 | .884 | 153 | .829 | 154 | .977 | 155 | 1.662 | 156 | 1.710 | 157 | 1.422 |
| 161 | .705 | 162 | .722 | 163 | .802 | 164 | .933 | 165 | .950 | 166 | .882 | 167 | 1.788 |
| 171 | .802 | 172 | .848 | 173 | 1.820 | 174 | .594 | 175 | -.296 | 176 | .007 | | |

APPENDIX CONTINUED.

| RUN= | 20 | POINT= | 167 | OPIFICE(CP) | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400 | 410 | 420 | 430 | 440 | 450 | 460 | 470 | 480 | 490 | 500 | 510 | 520 | 530 | 540 | 550 | 560 | 570 | 580 | 590 | 600 | 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700 | 710 | 720 | 730 | 740 | 750 | 760 | 770 | 780 | 790 | 800 | 810 | 820 | 830 | 840 | 850 | 860 | 870 | 880 | 890 | 900 | 910 | 920 | 930 | 940 | 950 | 960 | 970 | 980 | 990 | 1000 |
|------|----|--------|-----|---------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |
| 101 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 20 | POINT= | 169 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|----------------|-------|------|-------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | .978 | 21 | .915 | 31 | .694 | 41 | .600 | 51 | .616 | 61 | .663 | 71 | .993 | 81 | .978 | 91 | .915 | 101 | .647 |
| 111 | .537 | 121 | .506 | 131 | .553 | 141 | 1.119 | 151 | 1.041 | 161 | .820 | 171 | .364 | 181 | .380 | 191 | .380 | 201 | .396 |
| 21 | 1.796 | 221 | 1.261 | 231 | .034 | 241 | .333 | 251 | .286 | 261 | .474 | 271 | 3.038 | 281 | 3.054 | 291 | 2.456 | 301 | .144 |
| 31 | .018 | 321 | .270 | 331 | .301 | 341 | 2.696 | 351 | 2.680 | 361 | 2.062 | 371 | -.334 | 381 | .052 | 391 | .439 | 401 | .500 |
| 41 | 2.588 | 421 | 1.660 | 431 | .021 | 441 | .392 | 451 | -.551 | 461 | .500 | 471 | .562 | 481 | -.474 | 491 | .098 | 501 | .222 |
| 51 | .176 | 521 | .516 | 531 | -.242 | 541 | .037 | 551 | .145 | 561 | .129 | 571 | .238 | 581 | .361 | 591 | .361 | 601 | .377 |
| 61 | .269 | 621 | .354 | 631 | .390 | 641 | .415 | 651 | .255 | 661 | .280 | 671 | 2.628 | 681 | 2.751 | 691 | .882 | 701 | -1.195 |
| 71 | -.999 | 721 | -.384 | 731 | .009 | 741 | .390 | 751 | .698 | 761 | 1.005 | 771 | 1.202 | 781 | 1.288 | 791 | 2.849 | 801 | -.273 |
| 81 | -2.511 | 821 | -1.970 | 831 | -.310 | 841 | .022 | 851 | 2.751 | 861 | -2.867 | 871 | -5.154 | 881 | -3.322 | 891 | .933 | 901 | .671 |
| 91 | .439 | 921 | .593 | 931 | .609 | 941 | .671 | 951 | .980 | 961 | .856 | 971 | .578 | 981 | .377 | 991 | .315 | 1001 | .485 |
| 101 | .532 | 1021 | 1.073 | 1031 | .794 | 1041 | .253 | 1051 | -.226 | 1061 | .052 | 1071 | .315 | 1081 | .408 | 1091 | 1.737 | 1101 | -.040 |
| 111 | -.226 | 1121 | .300 | 1131 | .408 | 1141 | .485 | 1151 | 2.912 | 1161 | 2.448 | 1171 | .516 | 1181 | -1.941 | 1191 | -.473 | 1201 | .022 |
| 121 | .161 | 1221 | 2.498 | 1231 | 2.011 | 1241 | .145 | 1251 | -2.006 | 1261 | -.510 | 1271 | .162 | 1281 | .330 | 1291 | 2.398 | 1301 | -.174 |
| 131 | -.527 | 1321 | .263 | 1331 | .196 | 1341 | .633 | 1351 | -1.182 | 1361 | -1.552 | 1371 | -.359 | 1381 | .078 | 1391 | .196 | 1401 | .246 |
| 141 | -1.014 | 1421 | -.208 | 1431 | .129 | 1441 | .229 | 1451 | .448 | 1461 | .364 | 1471 | .246 | 1481 | .364 | 1491 | .398 | 1501 | .628 |
| 151 | .601 | 1521 | .696 | 1531 | .655 | 1541 | .818 | 1551 | 3.968 | 1561 | 3.887 | 1571 | 2.570 | 1581 | .316 | 1591 | .628 | 1601 | .750 |
| 161 | .655 | 1621 | .194 | 1631 | -.309 | 1641 | .696 | 1651 | .750 | 1661 | .818 | 1671 | 4.457 | 1681 | 1.905 | 1691 | -2.250 | 1701 | -1.246 |
| 171 | -1.449 | 1721 | .139 | 1731 | 4.335 | 1741 | -.444 | 1751 | -5.238 | 1761 | -3.663 | | | | | | | | |

| RUN= | 20 | POINT= | 170 | ORIFICE(CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|---------------|--------|------|-------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 11 | 1.036 | 21 | .882 | 31 | .419 | 41 | .321 | 51 | .251 | 61 | .602 | 71 | 1.724 | 81 | 1.569 | 91 | 1.008 | 101 | .335 |
| 111 | -.100 | 121 | .223 | 131 | .223 | 141 | 3.771 | 151 | 3.701 | 161 | 2.579 | 171 | .265 | 181 | -.492 | 191 | .111 | 201 | .279 |
| 21 | 4.136 | 221 | 3.056 | 231 | -.618 | 241 | .125 | 251 | -.562 | 261 | .461 | 271 | 3.575 | 281 | 3.519 | 291 | 2.467 | 301 | -.717 |
| 31 | -.562 | 321 | .027 | 331 | .097 | 341 | 3.161 | 351 | 3.189 | 361 | 2.237 | 371 | -1.333 | 381 | -.644 | 391 | -.065 | 401 | -.051 |
| 41 | 3.175 | 421 | 1.838 | 431 | -.492 | 441 | -.078 | 451 | -1.760 | 461 | .280 | 471 | .390 | 481 | -1.209 | 491 | -.382 | 501 | -.078 |
| 51 | -.203 | 521 | .652 | 531 | -.713 | 541 | -.203 | 551 | -.065 | 561 | -1.06 | 571 | 1.176 | 581 | .514 | 591 | .487 | 601 | .528 |
| 61 | .418 | 621 | .258 | 631 | .674 | 641 | .817 | 651 | .609 | 661 | .795 | 671 | 1.102 | 681 | 3.294 | 691 | -.104 | 701 | -4.203 |
| 71 | -1.573 | 721 | -.356 | 731 | -.060 | 741 | -.027 | 751 | .740 | 761 | 1.036 | 771 | 1.102 | 781 | 1.014 | 791 | 5.344 | 801 | -3.184 |
| 81 | -.135 | 821 | -1.792 | 831 | .784 | 841 | .411 | 851 | 5.585 | 861 | -6.001 | 871 | -8.906 | 881 | -5.004 | 891 | .914 | 901 | .418 |
| 91 | -.064 | 921 | .129 | 931 | .404 | 941 | .639 | 951 | 1.658 | 961 | 1.176 | 971 | .129 | 981 | -.657 | 991 | -.657 | 1001 | -.009 |
| 101 | .156 | 1021 | 3.657 | 1031 | 2.761 | 1041 | .694 | 1051 | -1.870 | 1061 | -1.539 | 1071 | -.175 | 1081 | .129 | 1091 | 3.973 | 1101 | .983 |
| 111 | -1.842 | 1121 | .074 | 1131 | .018 | 1141 | .652 | 1151 | 3.408 | 1161 | 2.775 | 1171 | -.418 | 1181 | -3.000 | 1191 | -1.442 | 1201 | -.395 |
| 121 | -.092 | 1221 | 2.888 | 1231 | 2.289 | 1241 | -.349 | 1251 | -3.226 | 1261 | -1.368 | 1271 | -.469 | 1281 | -.214 | 1291 | 2.828 | 1301 | -.799 |
| 131 | -1.198 | 1321 | -.139 | 1331 | -.034 | 1341 | .595 | 1351 | -1.758 | 1361 | -2.582 | 1371 | -.814 | 1381 | -.199 | 1391 | .011 | 1401 | .310 |
| 141 | -1.593 | 1421 | -.454 | 1431 | -.019 | 1441 | .131 | 1451 | .295 | 1461 | .400 | 1471 | .505 | 1481 | .580 | 1491 | .670 | 1501 | .481 |
| 151 | .529 | 1521 | .590 | 1531 | .711 | 1541 | .771 | 1551 | 4.331 | 1561 | 4.282 | 1571 | 2.563 | 1581 | .009 | 1591 | .154 | 1601 | .650 |
| 161 | .626 | 1621 | .069 | 1631 | -1.069 | 1641 | .348 | 1651 | .771 | 1661 | .917 | 1671 | 5.759 | 1681 | 2.006 | 1691 | -3.732 | 1701 | -2.158 |
| 171 | -1.783 | 1721 | -.694 | 1731 | 6.220 | 1741 | .856 | 1751 | -7.522 | 1761 | -5.222 | 1771 | | 1781 | | 1791 | | 1801 | |

APPENDIX CONTINUED.

| RUN= | 20 | POINT= | 171 | ORIFICE (CP | | | | | | | | | | | | | | | |
|------|--------|--------|--------|--------------|--------|-----|-------|-----|---------|-----|--------|-----|---------|-----|--------|-----|--------|-----|--------|
| 11 | 1.5011 | 21 | .906 | 31 | -.428 | 41 | -.719 | 51 | -1.125 | 61 | .427 | 71 | 4.127 | 81 | 3.953 | 91 | 2.603 | 101 | .239 |
| 11 | -1.255 | 12 | -.849 | 13 | -.588 | 14 | 5.984 | 15 | 5.809 | 16 | 4.127 | 17 | -.022 | 18 | -1.763 | 19 | -.922 | 20 | -.733 |
| 21 | 5.621 | 22 | 3.793 | 23 | -1.936 | 24 | -.864 | 25 | -3.098 | 26 | -.037 | 27 | 4.925 | 28 | 4.852 | 29 | 3.111 | 30 | -2.097 |
| 31 | -1.966 | 32 | -1.009 | 33 | -.951 | 34 | 4.419 | 35 | 4.333 | 36 | 2.822 | 37 | -2.625 | 38 | -1.613 | 39 | -.900 | 40 | -1.057 |
| 41 | 4.319 | 42 | 2.151 | 43 | -1.499 | 44 | -.957 | 45 | -4.721 | 46 | -.486 | 47 | .269 | 48 | -2.354 | 49 | -1.071 | 50 | -.743 |
| 51 | -1.000 | 52 | .811 | 53 | -1.413 | 54 | -.658 | 55 | -.472 | 56 | -.615 | 57 | 1.681 | 58 | 1.381 | 59 | 1.153 | 60 | .868 |
| 61 | .811 | 62 | .173 | 63 | -.009 | 64 | .468 | 65 | .241 | 66 | .604 | 67 | 5.207 | 68 | 3.789 | 69 | -1.290 | 70 | -7.979 |
| 71 | -3.240 | 72 | -1.664 | 73 | -.972 | 74 | -.473 | 75 | 1.216 | 76 | 1.170 | 77 | 1.080 | 78 | .683 | 79 | 7.667 | 80 | -3.965 |
| 81 | -8.557 | 82 | -4.158 | 83 | -.122 | 84 | .161 | 85 | 8.835 | 86 | -6.811 | 87 | -14.135 | 88 | -6.562 | 89 | 1.267 | 90 | -.258 |
| 91 | -1.469 | 92 | -.771 | 93 | -.529 | 94 | .740 | 95 | 4.004 | 96 | 3.092 | 97 | .555 | 98 | -2.211 | 99 | -2.724 | 100 | -1.384 |
| 101 | -.842 | 102 | 5.772 | 103 | 4.859 | 104 | 1.638 | 105 | -3.365 | 106 | -3.736 | 107 | -1.498 | 108 | -1.056 | 109 | 5.358 | 110 | 1.196 |
| 111 | -3.679 | 112 | -1.028 | 113 | -1.298 | 114 | .854 | 115 | 4.646 | 116 | 3.762 | 117 | -.016 | 118 | -5.176 | 119 | -3.536 | 120 | -1.541 |
| 121 | -.871 | 122 | 4.081 | 123 | 3.135 | 124 | -.802 | 125 | -5.282 | 126 | -2.399 | 127 | -1.298 | 128 | -1.019 | 129 | 3.864 | 130 | -1.422 |
| 131 | -2.259 | 132 | -.849 | 133 | -.430 | 134 | .577 | 135 | -2.414 | 136 | -4.275 | 137 | -1.562 | 138 | -.554 | 139 | -.260 | 140 | .531 |
| 141 | -2.306 | 142 | -.756 | 143 | .050 | 144 | .174 | 145 | .112 | 146 | .453 | 147 | .763 | 148 | .841 | 149 | 1.089 | 150 | 1.082 |
| 151 | .819 | 152 | .781 | 153 | .180 | 154 | .919 | 155 | 5.602 | 156 | 5.415 | 157 | 2.459 | 158 | -2.876 | 159 | -.797 | 160 | -.421 |
| 161 | -.484 | 162 | -1.749 | 163 | -3.176 | 164 | -.847 | 165 | -.196 | 166 | .055 | 167 | 6.145 | 168 | 1.783 | 169 | -6.107 | 170 | -3.564 |
| 171 | -.283 | 172 | .230 | 173 | 9.635 | 174 | 1.169 | 175 | -11.216 | 176 | -7.672 | | | | | | | | |

| RUN= | 20 | POINT= | 172 | ORIFICE (CP) | | | | | | | | | | | | | | | |
|------|---------|--------|--------|----------------|--------|-----|--------|-----|---------|-----|---------|-----|---------|-----|--------|-----|--------|-----|---------|
| 11 | 3.010 | 21 | 1.888 | 31 | -2.091 | 41 | -2.982 | 51 | -2.675 | 61 | -.386 | 71 | 7.251 | 81 | 7.128 | 91 | 4.992 | 101 | .613 |
| 11 | -3.290 | 12 | -3.044 | 13 | -2.614 | 14 | 7.973 | 15 | 7.866 | 16 | 5.469 | 17 | -.770 | 18 | -3.751 | 19 | -2.829 | 20 | -2.399 |
| 21 | 7.389 | 22 | 4.931 | 23 | -3.121 | 24 | -2.183 | 25 | -5.595 | 26 | -1.185 | 27 | 6.421 | 28 | 6.390 | 29 | 3.947 | 30 | -3.213 |
| 31 | -2.798 | 32 | -1.922 | 33 | -1.999 | 34 | 5.759 | 35 | 5.744 | 36 | 3.584 | 37 | -4.254 | 38 | -2.805 | 39 | -1.913 | 40 | -2.049 |
| 41 | 5.517 | 42 | 2.753 | 43 | -2.442 | 44 | -2.049 | 45 | -7.607 | 46 | -2.684 | 47 | .261 | 48 | -3.665 | 49 | -1.944 | 50 | -1.370 |
| 51 | -1.542 | 52 | .745 | 53 | -2.110 | 54 | -1.128 | 55 | -.796 | 56 | -.992 | 57 | 1.711 | 58 | 1.288 | 59 | 1.092 | 60 | 1.001 |
| 61 | .745 | 62 | -.762 | 63 | -.931 | 64 | -.246 | 65 | -.318 | 66 | .763 | 67 | 7.464 | 68 | 4.966 | 69 | -2.996 | 70 | -11.966 |
| 71 | -6.298 | 72 | -3.332 | 73 | -2.480 | 74 | -1.987 | 75 | .703 | 76 | 1.051 | 77 | .739 | 78 | .438 | 79 | 10.538 | 80 | -7.475 |
| 81 | -11.018 | 82 | -5.818 | 83 | -.258 | 84 | .258 | 85 | 10.790 | 86 | -11.834 | 87 | -19.508 | 88 | -9.925 | 89 | 2.541 | 90 | -.961 |
| 91 | -5.460 | 92 | -3.256 | 93 | -1.339 | 94 | .216 | 95 | 6.460 | 96 | 5.214 | 97 | 1.107 | 98 | -4.947 | 99 | -7.166 | 100 | -5.007 |
| 101 | -2.271 | 102 | 7.554 | 103 | 6.210 | 104 | 1.349 | 105 | -6.532 | 106 | -7.302 | 107 | -4.026 | 108 | -2.969 | 109 | 6.905 | 110 | .503 |
| 111 | -6.326 | 112 | -2.396 | 113 | -1.339 | 114 | .382 | 115 | 5.984 | 116 | 4.685 | 117 | -.795 | 118 | -8.087 | 119 | -5.521 | 120 | -2.773 |
| 121 | -1.912 | 122 | 5.233 | 123 | 3.887 | 124 | -1.811 | 125 | -8.395 | 126 | -4.077 | 127 | -2.500 | 128 | -1.844 | 129 | 4.921 | 130 | -2.697 |
| 131 | -3.370 | 132 | -1.630 | 133 | -.333 | 134 | .012 | 135 | -3.486 | 136 | -6.342 | 137 | -2.632 | 138 | -1.351 | 139 | -.842 | 140 | .455 |
| 141 | -3.371 | 142 | -1.400 | 143 | -.547 | 144 | -.185 | 145 | .159 | 146 | -.432 | 147 | .176 | 148 | .668 | 149 | .734 | 150 | 1.601 |
| 151 | .208 | 152 | .235 | 153 | -.813 | 154 | -.965 | 155 | 7.941 | 156 | 7.252 | 157 | 2.516 | 158 | -4.540 | 159 | -3.108 | 160 | -1.702 |
| 161 | -1.901 | 162 | -2.442 | 163 | -2.033 | 164 | -.481 | 165 | -.044 | 166 | -.030 | 167 | 11.112 | 168 | 3.644 | 169 | -9.660 | 170 | -5.668 |
| 171 | -.561 | 172 | .235 | 173 | 12.345 | 174 | 3.458 | 175 | -14.860 | 176 | -11.199 | | | | | | | | |

RUN= 22 POINT= 137 ORIFICE(CP)

[illegible]

| RUN= | 22 | POINT= | 138 | ORIFICE (CP) | | | | | | | | | | | | | | | | | | | |
|-------|-------|--------|-------|----------------|--------|-------|-------|-------|---------|-------|---------|-------|---------|-------|--------|-------|--------|-------|--------|--|--|--|--|
| 1 (| .677) | 2 (| .665) | 3 (| .455) | 4 (| .350) | 5 (| .256) | 6 (| .245) | 7 (| .642) | 8 (| .630) | 9 (| .537) | 10 (| .466) | | | | |
| 11 (| .315) | 12 (| .326) | 13 (| .291) | 14 (| .653) | 15 (| .630) | 16 (| .618) | 17 (| .443) | 18 (| .361) | 19 (| .396) | 20 (| .350) | | | | |
| 21 (| .677) | 22 (| .595) | 23 (| .431) | 24 (| .408) | 25 (| .326) | 26 (| .280) | 27 (| .653) | 28 (| .723) | 29 (| .583) | 30 (| .396) | | | | |
| 31 (| .373) | 32 (| .338) | 33 (| .303) | 34 (| .614) | 35 (| .626) | 36 (| .488) | 37 (| .270) | 38 (| .259) | 39 (| .327) | 40 (| .258) | | | | |
| 41 (| .672) | 42 (| .488) | 43 (| .316) | 44 (| .327) | 45 (| .235) | 46 (| .201) | 47 (| .488) | 48 (| .155) | 49 (| .362) | 50 (| .408) | | | | |
| 51 (| .362) | 52 (| .591) | 53 (| .178) | 54 (| .350) | 55 (| .327) | 56 (| .339) | 57 (| .132) | 58 (| .362) | 59 (| .385) | 60 (| .385) | | | | |
| 61 (| .430) | 62 (| .430) | 63 (| .393) | 64 (| .329) | 65 (| .010) | 66 (| .220) | 67 (| .813) | 68 (| .621) | 69 (| .430) | 70 (| .320) | | | | |
| 71 (| .336) | 72 (| .284) | 73 (| .275) | 74 (| .1P3) | 75 (| .220) | 76 (| .384) | 77 (| .338) | 78 (| .411) | 79 (| 1.524) | 80 (| .364) | | | | |
| 81 (| .483) | 82 (| .229) | 83 (| .457) | 84 (| .457) | 85 (| 1.324) | 86 (| -1.979) | 87 (| -2.317) | 88 (| -.373) | 89 (| .557) | 90 (| -.637) | | | | |
| 91 (| .419) | 92 (| .327) | 93 (| .190) | 94 (| .224) | 95 (| .591) | 96 (| .580) | 97 (| .545) | 98 (| .465) | 99 (| .305) | 100 (| .259) | | | | |
| 101 (| .236) | 102 (| .603) | 103 (| .591) | 104 (| .534) | 105 (| .408) | 106 (| .282) | 107 (| .282) | 108 (| .282) | 109 (| .649) | 110 (| .523) | | | | |
| 111 (| .359) | 112 (| .327) | 113 (| .259) | 114 (| .224) | 115 (| .660) | 116 (| .591) | 117 (| .431) | 118 (| .259) | 119 (| .255) | 120 (| .259) | | | | |
| 121 (| .259) | 122 (| .601) | 123 (| .526) | 124 (| .277) | 125 (| .152) | 126 (| .177) | 127 (| .214) | 128 (| .239) | 129 (| .639) | 130 (| .239) | | | | |
| 131 (| .216) | 132 (| .189) | 133 (| .252) | 134 (| .227) | 135 (| -.035) | 136 (| .127) | 137 (| .277) | 138 (| .327) | 139 (| .364) | 140 (| .264) | | | | |
| 141 (| .189) | 142 (| .302) | 143 (| .377) | 144 (| .364) | 145 (| .302) | 146 (| .364) | 147 (| .364) | 148 (| .339) | 149 (| .401) | 150 (| .496) | | | | |
| 151 (| .435 | 152 (| .415) | 153 (| .335) | 154 (| .304) | 155 (| .859) | 156 (| .808) | 157 (| .758) | 158 (| .486) | 159 (| .476) | 160 (| .435) | | | | |
| 161 (| .456) | 162 (| .395) | 163 (| .365) | 164 (| .435) | 165 (| .375) | 166 (| .375) | 167 (| 1.554) | 168 (| .818) | 169 (| .083) | 170 (| .264) | | | | |
| 171 (| .123) | 172 (| .355) | 173 (| 1.534) | 174 (| .687) | 175 (| -1.056) | 176 (| -.976) | | | | | | | | | | | | |

APPENDIX CONTINUED.

| RUN= | 22 | POINT= | 139 | OFFICE (CP) | | | | | | | | | | | | | | | | |
|------|--------|--------|--------|---------------|-------|-----|-------|-----|--------|-----|--------|-----|---------|-----|--------|-----|--------|-----|--------|--|
| 11 | 1.117 | 21 | .877 | 31 | .486 | 41 | .366 | 51 | -.201 | 61 | .682 | 71 | 1.988 | 81 | 1.898 | 91 | 1.312 | 101 | .336 | |
| 11 | -.054 | 12 | .366 | 13 | .426 | 14 | 3.460 | 15 | 3.265 | 16 | 2.349 | 17 | .201 | 18 | -.445 | 19 | .216 | 20 | .381 | |
| 21 | 3.761 | 22 | 2.484 | 23 | -.520 | 24 | .276 | 25 | -.205 | 26 | .516 | 27 | 3.641 | 28 | 3.565 | 29 | 2.454 | 30 | -.730 | |
| 31 | -.580 | 32 | -.039 | 33 | .201 | 34 | 3.421 | 35 | 3.391 | 36 | 2.299 | 37 | -1.437 | 38 | -.728 | 39 | -.093 | 40 | -.063 | |
| 41 | 3.347 | 42 | 1.753 | 43 | -.565 | 44 | -.152 | 45 | -1.732 | 46 | .188 | 47 | .306 | 48 | -1.245 | 49 | -.447 | 50 | -.093 | |
| 51 | -.152 | 52 | .394 | 53 | -.757 | 54 | -.167 | 55 | -.093 | 56 | -.182 | 57 | .158 | 58 | .320 | 59 | .276 | 60 | .365 | |
| 61 | .184 | 62 | .302 | 63 | .877 | 64 | .807 | 65 | .537 | 66 | .736 | 67 | 4.223 | 68 | 3.425 | 69 | -.543 | 70 | -4.816 | |
| 71 | -1.412 | 72 | -.168 | 73 | .114 | 74 | .009 | 75 | .807 | 76 | 1.124 | 77 | 1.053 | 78 | .983 | 79 | 4.880 | 80 | -2.985 | |
| 81 | -.532 | 82 | -1.565 | 83 | .678 | 84 | .408 | 85 | 5.819 | 86 | -5.755 | 87 | -10.345 | 88 | -4.722 | 89 | .896 | 90 | .335 | |
| 91 | -.046 | 92 | .232 | 93 | .542 | 94 | .749 | 95 | 1.752 | 96 | 1.369 | 97 | .055 | 98 | -.875 | 99 | -.653 | 100 | .070 | |
| 101 | .217 | 102 | 3.346 | 103 | 2.726 | 104 | .616 | 105 | -1.790 | 106 | -1.126 | 107 | -.034 | 108 | .203 | 109 | 3.523 | 110 | .763 | |
| 111 | -1.465 | 112 | .055 | 113 | .232 | 114 | .601 | 115 | 3.405 | 116 | 2.756 | 117 | .158 | 118 | -2.897 | 119 | -1.362 | 120 | -.299 | |
| 121 | .011 | 122 | 3.202 | 123 | 2.544 | 124 | -.169 | 125 | -3.443 | 126 | -1.309 | 127 | -.474 | 128 | -.249 | 129 | 3.025 | 130 | -.666 | |
| 131 | -1.389 | 132 | -.362 | 133 | .104 | 134 | .634 | 135 | -1.838 | 136 | -2.769 | 137 | -.923 | 138 | -.313 | 139 | -.089 | 140 | .072 | |
| 141 | -1.710 | 142 | -.554 | 143 | -.121 | 144 | .072 | 145 | .569 | 146 | .345 | 147 | .361 | 148 | .393 | 149 | .361 | 150 | .525 | |
| 151 | .551 | 152 | .693 | 153 | .577 | 154 | .823 | 155 | 4.402 | 156 | 4.467 | 157 | 2.963 | 158 | -.344 | 159 | .201 | 160 | .784 | |
| 161 | .590 | 162 | .058 | 163 | -.733 | 164 | .369 | 165 | -.654 | 166 | .849 | 167 | 5.387 | 168 | 2.327 | 169 | -2.963 | 170 | -1.952 | |
| 171 | -2.743 | 172 | -.344 | 173 | 6.139 | 174 | -.409 | 175 | -7.709 | 176 | -.4973 | | | | | | | | | |

| RUN= | 22 | POINT= | 140 | OFFICE (CP) | | | | | | | | | | | | | | | |
|------|--------|--------|--------|---------------|--------|-----|--------|-----|---------|-----|--------|-----|---------|-----|--------|-----|--------|-----|--------|
| 11 | 1.675 | 21 | 1.018 | 31 | -.729 | 41 | -1.237 | 51 | -1.565 | 61 | -.042 | 71 | 6.125 | 81 | 5.692 | 91 | 3.810 | 101 | .391 |
| 11 | -2.441 | 12 | -1.998 | 13 | -1.441 | 14 | 7.558 | 15 | 7.200 | 16 | 5.064 | 17 | -.535 | 18 | -2.379 | 19 | -1.879 | 20 | -1.655 |
| 21 | 6.901 | 22 | 4.616 | 23 | -2.805 | 24 | -1.924 | 25 | -4.965 | 26 | -.595 | 27 | 6.050 | 28 | 5.975 | 29 | 3.616 | 30 | -3.103 |
| 31 | -2.405 | 32 | -1.894 | 33 | -1.894 | 34 | 5.234 | 35 | 5.146 | 36 | 3.209 | 37 | -3.558 | 38 | -2.281 | 39 | -1.503 | 40 | -1.782 |
| 41 | 5.175 | 42 | 2.416 | 43 | -2.251 | 44 | -1.650 | 45 | -7.095 | 46 | -1.884 | 47 | .156 | 48 | -3.367 | 49 | -1.679 | 50 | -1.253 |
| 51 | -1.235 | 52 | .669 | 53 | -2.090 | 54 | -.074 | 55 | -.754 | 56 | -1.033 | 57 | 1.741 | 58 | 1.256 | 59 | 1.139 | 60 | .713 |
| 61 | .611 | 62 | -.077 | 63 | .040 | 64 | .378 | 65 | .355 | 66 | .775 | 67 | 6.038 | 68 | 4.626 | 69 | -2.224 | 70 | -9.285 |
| 71 | -4.301 | 72 | -1.921 | 73 | -1.116 | 74 | -.917 | 75 | 1.300 | 76 | 1.160 | 77 | 1.207 | 78 | 1.008 | 79 | 9.154 | 80 | -4.885 |
| 81 | -9.600 | 82 | -4.873 | 83 | -.205 | 84 | .063 | 85 | 9.901 | 86 | -.760 | 87 | -18.854 | 88 | -8.153 | 89 | 1.374 | 90 | -.666 |
| 91 | -2.641 | 92 | -1.605 | 93 | -.622 | 94 | .611 | 95 | 5.878 | 96 | 4.646 | 97 | .802 | 98 | -3.805 | 99 | -5.082 | 100 | -3.175 |
| 101 | -2.059 | 102 | 7.243 | 103 | 5.966 | 104 | 1.697 | 105 | -5.155 | 106 | -5.860 | 107 | -2.837 | 108 | -2.118 | 109 | 6.524 | 110 | .934 |
| 111 | -5.419 | 112 | -2.045 | 113 | -1.766 | 114 | .391 | 115 | 5.717 | 116 | 4.777 | 117 | -.357 | 118 | -7.297 | 119 | -5.082 | 120 | -2.500 |
| 121 | -1.942 | 122 | 4.768 | 123 | 3.683 | 124 | -1.183 | 125 | -7.167 | 126 | -3.777 | 127 | -2.061 | 128 | -1.614 | 129 | 4.688 | 130 | -2.077 |
| 131 | -3.385 | 132 | -1.375 | 133 | -.593 | 134 | .077 | 135 | -3.210 | 136 | -5.667 | 137 | -2.380 | 138 | -1.120 | 139 | -.689 | 140 | .428 |
| 141 | -3.066 | 142 | -1.295 | 143 | -.434 | 144 | -.130 | 145 | .524 | 146 | .540 | 147 | .859 | 148 | .811 | 149 | .891 | 150 | .855 |
| 151 | .533 | 152 | .597 | 153 | .223 | 154 | .804 | 155 | 6.437 | 156 | 6.127 | 157 | 2.905 | 158 | -2.870 | 159 | -1.852 | 160 | -.537 |
| 161 | -.640 | 162 | -2.161 | 163 | -4.108 | 164 | -1.001 | 165 | -.176 | 166 | .172 | 167 | 9.852 | 168 | 2.247 | 169 | -8.323 | 170 | -4.430 |
| 171 | -.241 | 172 | -.174 | 173 | 11.000 | 174 | 1.061 | 175 | -13.904 | 176 | -.9715 | | | | | | | | |

APPENDIX CONTINUED.

RUN= 25 POINT= 147 OFFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 11 | .447 | 21 | .429 | 31 | .267 | 41 | .115 | 51 | .062 | 61 | .039 | 71 | .223 | 81 | .231 | 91 | .214 | 101 | .135 |
| 11 | .024 | 12 | .016 | 13 | .031 | 14 | .110 | 15 | .126 | 16 | .135 | 17 | .062 | 18 | .028 | 19 | .036 | 20 | .025 |
| 21 | .046 | 22 | .038 | 23 | .068 | 24 | .073 | 25 | .076 | 26 | .033 | 27 | .009 | 28 | .012 | 29 | .002 | 30 | .082 |
| 31 | .104 | 32 | .113 | 33 | .104 | 34 | .088 | 35 | .034 | 36 | .044 | 37 | .044 | 38 | .061 | 39 | .066 | 40 | .072 |
| 41 | .303 | 42 | .042 | 43 | .029 | 44 | .051 | 45 | .060 | 46 | .030 | 47 | .065 | 48 | .029 | 49 | .040 | 50 | .030 |
| 51 | .039 | 52 | .016 | 53 | .005 | 54 | .029 | 55 | .027 | 56 | .040 | 57 | .212 | 58 | .082 | 59 | .060 | 60 | .055 |
| 61 | .057 | 62 | .000 | 63 | .019 | 64 | .004 | 65 | .040 | 66 | .153 | 67 | .132 | 68 | .110 | 69 | .089 | 70 | .084 |
| 71 | .071 | 72 | .051 | 73 | .048 | 74 | .026 | 75 | .008 | 76 | .007 | 77 | .025 | 78 | .036 | 79 | .088 | 80 | .070 |
| 81 | .142 | 82 | .080 | 83 | .072 | 84 | .078 | 85 | .076 | 86 | .062 | 87 | .061 | 88 | .073 | 89 | .434 | 90 | .435 |
| 91 | .241 | 92 | .143 | 93 | .050 | 94 | .009 | 95 | .207 | 96 | .219 | 97 | .216 | 98 | .168 | 99 | .064 | 100 | .011 |
| 101 | .24 | 102 | .111 | 103 | .110 | 104 | .111 | 105 | .033 | 106 | .047 | 107 | .051 | 108 | .039 | 109 | .048 | 110 | .048 |
| 111 | .065 | 112 | .058 | 113 | .037 | 114 | .041 | 115 | .007 | 116 | .037 | 117 | .005 | 118 | .090 | 119 | .113 | 120 | .104 |
| 121 | .092 | 122 | .084 | 123 | .048 | 124 | .005 | 125 | .082 | 126 | .100 | 127 | .102 | 128 | .104 | 129 | .309 | 130 | .101 |
| 131 | .079 | 132 | .092 | 133 | .075 | 134 | .025 | 135 | .137 | 136 | .018 | 137 | .011 | 138 | .005 | 139 | .005 | 140 | .121 |
| 141 | .052 | 142 | .022 | 143 | .011 | 144 | .002 | 145 | .151 | 146 | .093 | 147 | .090 | 148 | .085 | 149 | .086 | 150 | .004 |
| 151 | .018 | 152 | .002 | 153 | .046 | 154 | .247 | 155 | .140 | 156 | .122 | 157 | .094 | 158 | .073 | 159 | .086 | 160 | .072 |
| 161 | .065 | 162 | .044 | 163 | .021 | 164 | .010 | 165 | .019 | 166 | .026 | 167 | .099 | 168 | .068 | 169 | .085 | 170 | .091 |
| 171 | .099 | 172 | .094 | 173 | .066 | 174 | .064 | 175 | .074 | 176 | .067 | | | | | | | | |

RUN= 25 POINT= 148 OFFICE (CP)

| | | | | | | | | | | | | | | | | | | | |
|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 11 | .501 | 21 | .472 | 31 | .289 | 41 | .136 | 51 | .089 | 61 | .078 | 71 | .295 | 81 | .301 | 91 | .273 | 101 | .186 |
| 11 | .083 | 12 | .058 | 13 | .069 | 14 | .185 | 15 | .205 | 16 | .211 | 17 | .111 | 18 | .029 | 19 | .007 | 20 | .019 |
| 21 | .118 | 22 | .108 | 23 | .030 | 24 | .025 | 25 | .001 | 26 | .003 | 27 | .066 | 28 | .075 | 29 | .060 | 30 | .030 |
| 31 | .051 | 32 | .062 | 33 | .050 | 34 | .142 | 35 | .125 | 36 | .086 | 37 | .015 | 38 | .024 | 39 | .022 | 40 | .030 |
| 41 | .339 | 42 | .096 | 43 | .016 | 44 | .005 | 45 | .015 | 46 | .000 | 47 | .035 | 48 | .055 | 49 | .077 | 50 | .057 |
| 51 | .078 | 52 | .069 | 53 | .021 | 54 | .054 | 55 | .054 | 56 | .064 | 57 | .174 | 58 | .043 | 59 | .019 | 60 | .007 |
| 61 | .011 | 62 | .043 | 63 | .055 | 64 | .035 | 65 | .001 | 66 | .105 | 67 | .173 | 68 | .171 | 69 | .148 | 70 | .143 |
| 71 | .128 | 72 | .112 | 73 | .095 | 74 | .075 | 75 | .050 | 76 | .052 | 77 | .029 | 78 | .025 | 79 | .153 | 80 | .127 |
| 81 | .062 | 82 | .127 | 83 | .113 | 84 | .126 | 85 | .128 | 86 | .102 | 87 | .100 | 88 | .108 | 89 | .481 | 90 | .474 |
| 91 | .268 | 92 | .177 | 93 | .076 | 94 | .046 | 95 | .280 | 96 | .286 | 97 | .269 | 98 | .217 | 99 | .091 | 100 | .059 |
| 101 | .056 | 102 | .182 | 103 | .186 | 104 | .176 | 105 | .079 | 106 | .002 | 107 | .010 | 108 | .005 | 109 | .120 | 110 | .103 |
| 111 | .025 | 112 | .020 | 113 | .006 | 114 | .012 | 115 | .063 | 116 | .061 | 117 | .033 | 118 | .054 | 119 | .071 | 120 | .068 |
| 121 | .054 | 122 | .133 | 123 | .091 | 124 | .019 | 125 | .053 | 126 | .069 | 127 | .063 | 128 | .060 | 129 | .335 | 130 | .027 |
| 131 | .042 | 132 | .053 | 133 | .031 | 134 | .006 | 135 | .121 | 136 | .010 | 137 | .020 | 138 | .016 | 139 | .032 | 140 | .114 |
| 141 | .336 | 142 | .002 | 143 | .019 | 144 | .024 | 145 | .125 | 146 | .067 | 147 | .053 | 148 | .039 | 149 | .042 | 150 | .074 |
| 151 | .058 | 152 | .036 | 153 | .003 | 154 | .260 | 155 | .177 | 156 | .175 | 157 | .154 | 158 | .153 | 159 | .142 | 160 | .135 |
| 161 | .120 | 162 | .098 | 163 | .081 | 164 | .048 | 165 | .039 | 166 | .031 | 167 | .158 | 168 | .130 | 169 | .123 | 170 | .142 |
| 171 | .139 | 172 | .143 | 173 | .119 | 174 | .101 | 175 | .114 | 176 | .120 | | | | | | | | |

APPENDIX CONTINUED.

| RUN# | 25 | POINT= 149 | ORIFICE (CP) | | | | | | | | | | | | | | | | |
|------|-------|------------|----------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 110 | .548 | 21 | .503 | 31 | .123 | 41 | .169 | 51 | .100 | 61 | .083 | 71 | .345 | 81 | .349 | 91 | .323 | 101 | .228 |
| 111 | .117 | 121 | .091 | 131 | .048 | 141 | .241 | 151 | .261 | 161 | .251 | 171 | .151 | 181 | .056 | 191 | .039 | 201 | .058 |
| 210 | .67 | 221 | .158 | 231 | .005 | 241 | .002 | 251 | .018 | 261 | .018 | 271 | .121 | 281 | .126 | 291 | .101 | 301 | .002 |
| 310 | .024 | 321 | -.033 | 331 | -.027 | 341 | .171 | 351 | .155 | 361 | .116 | 371 | .013 | 381 | .002 | 391 | .005 | 401 | .005 |
| 410 | .353 | 421 | .117 | 431 | .035 | 441 | .019 | 451 | .005 | 461 | .013 | 471 | -.016 | 481 | .062 | 491 | .089 | 501 | .080 |
| 510 | .096 | 521 | -.000 | 531 | .027 | 541 | .069 | 551 | .074 | 561 | .085 | 571 | -.172 | 581 | -.023 | 591 | .008 | 601 | .010 |
| 610 | .014 | 621 | .063 | 631 | .092 | 641 | .066 | 651 | .031 | 661 | -.080 | 671 | .182 | 681 | .196 | 691 | .178 | 701 | .178 |
| 710 | .161 | 721 | .148 | 731 | .128 | 741 | .103 | 751 | .074 | 761 | .074 | 771 | .069 | 781 | .058 | 791 | .199 | 801 | .174 |
| 810 | .143 | 821 | .155 | 831 | .129 | 841 | .154 | 851 | .174 | 861 | .136 | 871 | .131 | 881 | .123 | 891 | .518 | 901 | .504 |
| 910 | .271 | 921 | .174 | 931 | .086 | 941 | .049 | 951 | .323 | 961 | .331 | 971 | .302 | 981 | .233 | 991 | .106 | 1001 | .072 |
| 1010 | .071 | 1021 | .234 | 1031 | .233 | 1041 | .206 | 1051 | .100 | 1061 | .004 | 1071 | .005 | 1081 | .010 | 1091 | .165 | 1101 | .133 |
| 1110 | -.018 | 1121 | .011 | 1131 | .005 | 1141 | .004 | 1151 | .109 | 1161 | .103 | 1171 | .064 | 1181 | -.042 | 1191 | -.055 | 1201 | -.051 |
| 1210 | -.045 | 1221 | .140 | 1231 | .119 | 1241 | .041 | 1251 | -.051 | 1261 | -.051 | 1271 | -.047 | 1281 | -.049 | 1291 | .346 | 1301 | .023 |
| 1310 | -.032 | 1321 | -.039 | 1331 | -.014 | 1341 | .020 | 1351 | -.144 | 1361 | -.002 | 1371 | .020 | 1381 | .028 | 1391 | .040 | 1401 | -.118 |
| 1410 | -.040 | 1421 | .086 | 1431 | .028 | 1441 | .044 | 1451 | -.134 | 1461 | -.049 | 1471 | -.033 | 1481 | -.030 | 1491 | -.025 | 1501 | .067 |
| 1510 | .093 | 1521 | .060 | 1531 | .027 | 1541 | -.328 | 1551 | .174 | 1561 | .191 | 1571 | .151 | 1581 | .179 | 1591 | .170 | 1601 | .164 |
| 1610 | .148 | 1621 | .133 | 1631 | .112 | 1641 | .071 | 1651 | .072 | 1661 | .053 | 1671 | .201 | 1681 | .159 | 1691 | .181 | 1701 | .180 |
| 1710 | .141 | 1721 | .176 | 1731 | .159 | 1741 | .136 | 1751 | .161 | 1761 | .053 | 1771 | .215 | 1781 | .171 | 1791 | .177 | 1801 | .198 |

| RUN# | 25 | POINT= 150 | ORIFICE (CP) | | | | | | | | | | | | | | | | |
|------|-------|------------|----------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 110 | .554 | 21 | .524 | 31 | .323 | 41 | .155 | 51 | .103 | 61 | .078 | 71 | .378 | 81 | .367 | 91 | .339 | 101 | .244 |
| 111 | .116 | 121 | .097 | 131 | .095 | 141 | .270 | 151 | .289 | 161 | .271 | 171 | .166 | 181 | .060 | 191 | .057 | 201 | .059 |
| 210 | .198 | 221 | .140 | 231 | .017 | 241 | .021 | 251 | .033 | 261 | .024 | 271 | .146 | 281 | .158 | 291 | .123 | 301 | .011 |
| 310 | -.016 | 321 | -.017 | 331 | -.014 | 341 | .188 | 351 | .176 | 361 | .133 | 371 | .006 | 381 | .016 | 391 | .017 | 401 | .011 |
| 410 | .343 | 421 | .127 | 431 | .045 | 441 | .030 | 451 | .015 | 461 | .030 | 471 | -.022 | 481 | .063 | 491 | .097 | 501 | .095 |
| 510 | .102 | 521 | .007 | 531 | .038 | 541 | .079 | 551 | .081 | 561 | .094 | 571 | -.145 | 581 | -.008 | 591 | .022 | 601 | .028 |
| 610 | .030 | 621 | .080 | 631 | .098 | 641 | .075 | 651 | .048 | 661 | -.056 | 671 | .089 | 681 | .086 | 691 | .203 | 701 | .199 |
| 710 | .178 | 721 | .158 | 731 | .144 | 741 | .118 | 751 | .087 | 761 | .095 | 771 | .089 | 781 | .086 | 791 | .215 | 801 | .188 |
| 810 | .147 | 821 | .175 | 831 | .142 | 841 | .160 | 851 | .192 | 861 | .149 | 871 | .144 | 881 | .145 | 891 | .541 | 901 | .516 |
| 910 | .284 | 921 | .173 | 931 | .085 | 941 | .041 | 951 | .356 | 961 | .352 | 971 | .335 | 981 | .244 | 991 | .121 | 1001 | .071 |
| 1010 | .088 | 1021 | .241 | 1031 | .260 | 1041 | .231 | 1051 | .108 | 1061 | .023 | 1071 | .030 | 1081 | .021 | 1091 | .194 | 1101 | .158 |
| 1110 | -.035 | 1121 | .009 | 1131 | .012 | 1141 | .009 | 1151 | .137 | 1161 | .125 | 1171 | .088 | 1181 | -.034 | 1191 | -.053 | 1201 | -.036 |
| 1210 | -.032 | 1221 | .182 | 1231 | .133 | 1241 | .049 | 1251 | -.054 | 1261 | -.041 | 1271 | -.037 | 1281 | -.034 | 1291 | .361 | 1301 | -.041 |
| 1310 | -.035 | 1321 | -.026 | 1331 | -.009 | 1341 | .030 | 1351 | -.147 | 1361 | -.005 | 1371 | .029 | 1381 | .044 | 1391 | .052 | 1401 | -.115 |
| 1410 | -.035 | 1421 | .022 | 1431 | .034 | 1441 | .049 | 1451 | -.119 | 1461 | -.035 | 1471 | -.022 | 1481 | -.009 | 1491 | -.010 | 1501 | .076 |
| 1510 | .088 | 1521 | .071 | 1531 | .045 | 1541 | -.245 | 1551 | .215 | 1561 | .184 | 1571 | .190 | 1581 | .179 | 1591 | .183 | 1601 | .173 |
| 1610 | .162 | 1621 | .151 | 1631 | .130 | 1641 | -.094 | 1651 | .099 | 1661 | .089 | 1671 | .215 | 1681 | .171 | 1691 | .177 | 1701 | .198 |
| 1710 | .180 | 1721 | .184 | 1731 | .183 | 1741 | .158 | 1751 | .175 | 1761 | .169 | | | | | | | | |

APPENDIX CONTINUED

| PUNE= | 29 | POINT= | 177 | OPIFICF (CP) | | | | | | | | | | | | | | | | |
|-------|-------|--------|-------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|
| 11 | .514 | 21 | .456 | 31 | .205 | 41 | .002 | 51 | -.089 | 61 | -.082 | 71 | .259 | 81 | .255 | 91 | .223 | 101 | -.097 | |
| 111 | -.054 | 121 | -.065 | 131 | -.063 | 141 | .114 | 151 | .136 | 161 | .123 | 171 | .001 | 181 | -.104 | 191 | -.108 | 201 | -.100 | |
| 21 | .027 | 221 | .002 | 231 | -.163 | 241 | -.144 | 251 | -.123 | 261 | -.108 | 271 | -.038 | 281 | -.037 | 291 | -.046 | 301 | -.182 | |
| 31 | -.189 | 321 | -.190 | 331 | -.174 | 341 | .048 | 351 | -.033 | 361 | -.031 | 371 | -.148 | 381 | -.149 | 391 | -.138 | 401 | -.151 | |
| 41 | -.261 | 421 | -.029 | 431 | -.099 | 441 | -.104 | 451 | -.109 | 461 | -.082 | 471 | -.146 | 481 | -.049 | 491 | -.017 | 501 | -.027 | |
| 51 | -.026 | 521 | -.077 | 531 | -.060 | 541 | -.028 | 551 | -.025 | 561 | -.014 | 571 | -.208 | 581 | -.126 | 591 | -.109 | 601 | -.104 | |
| 61 | -.101 | 621 | -.024 | 631 | -.045 | 641 | -.064 | 651 | -.088 | 661 | -.206 | 671 | .049 | 681 | .047 | 691 | .012 | 701 | .004 | |
| 71 | .002 | 721 | -.008 | 731 | -.011 | 741 | -.024 | 751 | -.032 | 761 | -.030 | 771 | -.041 | 781 | -.049 | 791 | .039 | 801 | .021 | |
| 81 | .019 | 821 | .039 | 831 | .047 | 841 | .043 | 851 | .045 | 861 | .030 | 871 | .034 | 881 | .044 | 891 | .491 | 901 | .472 | |
| 91 | .196 | 921 | .029 | 931 | -.102 | 941 | -.122 | 951 | .239 | 961 | .236 | 971 | .224 | 981 | .145 | 991 | -.010 | 1001 | -.055 | |
| 101 | -.059 | 1021 | .111 | 1031 | .110 | 1041 | .097 | 1051 | -.020 | 1061 | -.092 | 1071 | -.121 | 1081 | -.119 | 1091 | .022 | 1101 | .007 | |
| 111 | -.143 | 1121 | -.132 | 1131 | -.129 | 1141 | -.125 | 1151 | -.042 | 1161 | -.043 | 1171 | -.058 | 1181 | -.166 | 1191 | -.187 | 1201 | -.172 | |
| 121 | -.162 | 1221 | .048 | 1231 | .006 | 1241 | -.061 | 1251 | -.172 | 1261 | -.171 | 1271 | -.164 | 1281 | -.159 | 1291 | .270 | 1301 | -.068 | |
| 131 | -.137 | 1321 | -.143 | 1331 | -.117 | 1341 | -.078 | 1351 | -.241 | 1361 | -.071 | 1371 | -.043 | 1381 | -.046 | 1391 | -.041 | 1401 | -.161 | |
| 141 | -.095 | 1421 | -.060 | 1431 | -.044 | 1441 | -.032 | 1451 | -.147 | 1461 | -.119 | 1471 | -.124 | 1481 | -.118 | 1491 | -.121 | 1501 | -.017 | |
| 151 | -.036 | 1521 | -.051 | 1531 | -.082 | 1541 | .281 | 1551 | .052 | 1561 | .046 | 1571 | .025 | 1581 | .001 | 1591 | .015 | 1601 | .019 | |
| 161 | .013 | 1621 | -.002 | 1631 | -.009 | 1641 | -.033 | 1651 | -.032 | 1661 | -.036 | 1671 | .045 | 1681 | .017 | 1691 | .021 | 1701 | .052 | |
| 171 | .059 | 1721 | .064 | 1731 | .031 | 1741 | .026 | 1751 | .036 | 1761 | .036 | 1771 | | 1781 | | 1791 | | 1801 | | |

| PUNE | 29 | POINT= 178 | OFFICE (CL) | | | | | | | | | | | | | | | | |
|------|-------|------------|---------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 11 | .550 | 21 | .480 | 31 | .219 | 41 | .016 | 51 | -.064 | 61 | -.063 | 71 | .314 | 81 | .313 | 91 | .267 | 101 | .136 |
| 111 | -.021 | 121 | -.035 | 131 | -.029 | 141 | .176 | 151 | .204 | 161 | .169 | 171 | .046 | 181 | -.079 | 191 | -.077 | 201 | -.069 |
| 21 | .081 | 221 | .056 | 231 | -.123 | 241 | -.106 | 251 | -.095 | 261 | -.083 | 271 | .022 | 281 | .017 | 291 | .002 | 301 | -.143 |
| 31 | -.156 | 321 | -.153 | 331 | -.145 | 341 | .020 | 351 | .064 | 361 | .000 | 371 | -.127 | 381 | -.114 | 391 | -.100 | 401 | -.113 |
| 41 | .292 | 421 | .004 | 431 | -.077 | 441 | -.077 | 451 | -.085 | 461 | -.060 | 471 | -.174 | 481 | -.026 | 491 | -.001 | 501 | -.006 |
| 51 | -.002 | 521 | -.058 | 531 | -.043 | 541 | -.008 | 551 | -.003 | 561 | .012 | 571 | -.200 | 581 | -.109 | 591 | -.086 | 601 | -.081 |
| 61 | -.075 | 621 | -.018 | 631 | -.032 | 641 | -.044 | 651 | -.060 | 661 | -.163 | 671 | .094 | 681 | .086 | 691 | .047 | 701 | .035 |
| 71 | .030 | 721 | .023 | 731 | .017 | 741 | .002 | 751 | -.009 | 761 | -.000 | 771 | -.010 | 781 | -.020 | 791 | .090 | 801 | .066 |
| 81 | .058 | 821 | .063 | 831 | .072 | 841 | .084 | 851 | .096 | 861 | .075 | 871 | .066 | 881 | .072 | 891 | .527 | 901 | .497 |
| 91 | .157 | 921 | .057 | 931 | -.087 | 941 | -.109 | 951 | .293 | 961 | .293 | 971 | .262 | 981 | .166 | 991 | .002 | 1001 | -.037 |
| 101 | -.024 | 1021 | .162 | 1031 | .168 | 1041 | .143 | 1051 | .007 | 1061 | -.091 | 1071 | -.091 | 1081 | -.091 | 1091 | .073 | 1101 | .041 |
| 111 | -.124 | 1121 | -.098 | 1131 | -.106 | 1141 | -.101 | 1151 | .014 | 1161 | -.003 | 1171 | -.021 | 1181 | -.151 | 1191 | -.167 | 1201 | -.146 |
| 121 | -.134 | 1221 | .073 | 1231 | .029 | 1241 | -.053 | 1251 | -.156 | 1261 | -.145 | 1271 | -.138 | 1281 | -.133 | 1291 | .291 | 1301 | -.055 |
| 131 | -.125 | 1321 | -.125 | 1331 | -.097 | 1341 | -.057 | 1351 | -.233 | 1361 | -.063 | 1371 | -.043 | 1381 | -.028 | 1391 | -.023 | 1401 | -.161 |
| 141 | -.084 | 1421 | -.046 | 1431 | -.029 | 1441 | -.012 | 1451 | -.142 | 1461 | -.106 | 1471 | -.108 | 1481 | -.101 | 1491 | -.095 | 1501 | -.024 |
| 151 | -.024 | 1521 | -.038 | 1531 | -.057 | 1541 | .021 | 1551 | .094 | 1561 | -.080 | 1571 | .060 | 1581 | .039 | 1591 | .048 | 1601 | .051 |
| 161 | .044 | 1621 | .042 | 1631 | .022 | 1641 | -.001 | 1651 | -.006 | 1661 | -.004 | 1671 | .093 | 1681 | .059 | 1691 | .065 | 1701 | .081 |
| 171 | .042 | 1721 | .104 | 1731 | .069 | 1741 | .054 | 1751 | .069 | 1761 | .070 | 1771 | | 1781 | | 1791 | | 1801 | |

APPENDIX CONTINUED.

| DATE | 20 | POINT | 179 | OFFICE (CP) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 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